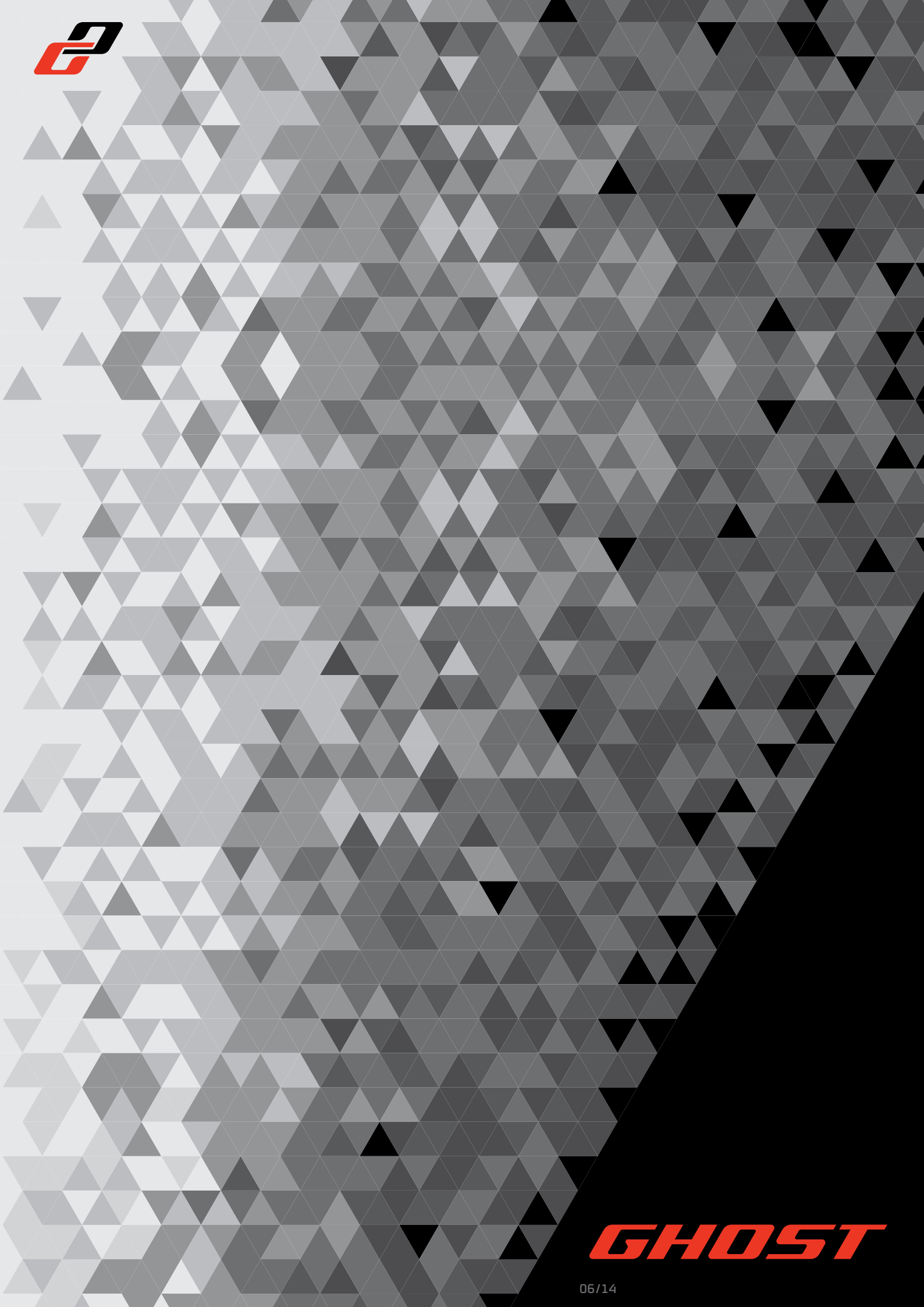
GHOST
06/14

User Manual

for GHOST Bikes

Version 06/14

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Dear Customer,

We wish to congratulate you on your choice of a bike from our company, and to thank you for the faith placed in us.

With your bike you have acquired a high-quality, environmentally-friendly sports model with which you will have a great deal of pleasure while at the same time doing something to improve your health.

1. Fundamental Information on your new Bike and this User Manual

This user manual is a very important document.
Please read this manual carefully before using your bike for the first time and keep it in a safe place.

1.1 Scope

This user manual applies exclusively to bikes made by GHOST from the 2012 model year on, as referred to in *sections 4.1 to 4.1.5*.

This manual does not apply to GHOST epacs or pedelecs.

1.2 Scope of supply

1.2.1 Basic equipment

- Complete bike (various models without pedals) or frame set
- In the case of carbon frames: assembly paste
- In the case of disc brakes: transport securing device
- User manual in your national language

1.2.2 Optional accessories for installation by the specialist bicycle dealer

Please refer to *section 2.3.2, What must you bear in mind when retrofitting accessories and carrying out conversions?* to find out the optional accessories you can use to retrofit your bike.

1.3 Other applicable documents

- Delivery certificate
  The delivery certificate is an important accompanying document which your specialist bicycle dealer has completed and handed over to you. This contains key data and other data about your bike.
- The delivery certificate provides information on which Component user manuals are enclosed.
  These contain product-specific information.

  Due to the wide variety of components available, not all of the components mounted on your bike can be described in this manual. User information which is important for you is enclosed as a separate document and is referred to in the delivery certificate.
  The instructions and information contained therein must be given priority and are to be followed!

- New technical developments may result in changes to the models, their technical data and documentation at short notice. If these changes are relevant to handling the bike and your safety, the associated user information is enclosed as a separate document and is referred to in the delivery certificate.
- Please consult your specialist retailer concerning the up-to-dateness of the technical data.

1.4 Legal regulations

As a road user you have to abide by the traffic regulations in your country.

In Germany you do not need any official authorisation for your bike.

On public roads and paths you are only allowed to ride your bike if you retrofit it with the equipment which is stipulated by law in your country. In Germany these requirements are laid down in the German highway code (StVZO).
This requires the following equipment:

- Two independently functioning brakes
- A bell
- Dynamo-powered lights for front (white light) and rear (red light)
- Racing bikes under 11 kg are exempted from the dynamo obligation. On racing bikes which are exempted from the dynamo obligation you must have approved battery lighting during the day. For the duration of the participation in races, racing bikes are exempted from this obligation.
- White reflector at the front (often integrated into the front headlight) and two red reflectors at the back (one of which is often integrated into the back light)
- Two yellow reflectors each for front and rear wheel; alternatively: tyres with reflective stripes attached on both sides
- Two yellow reflectors each for right and left pedal
- All lighting components and reflector parts must be explicitly approved for bikes. Please consult your specialist retailer on this.
- For the full wording of the regulations in Germany, please refer to the StVZO or consult your dealer.
- The exact legal text with details can be found on the Internet at the following address: http://www.gesetze-im-internet.de/stvzo/ (correct as of: January 2012)
- For use outside Germany, please observe the traffic regulations applicable in your country. Consult your dealer or the responsible authorities.

NOTE:
All of the equipment required by law in Germany is contained in the scope of delivery of your bike for the following ranges/models: TREKKING

Please consult your specialist bicycle dealer exclusively for all other bicycle models. He or she will be pleased to advise you.

1.5 Conventions

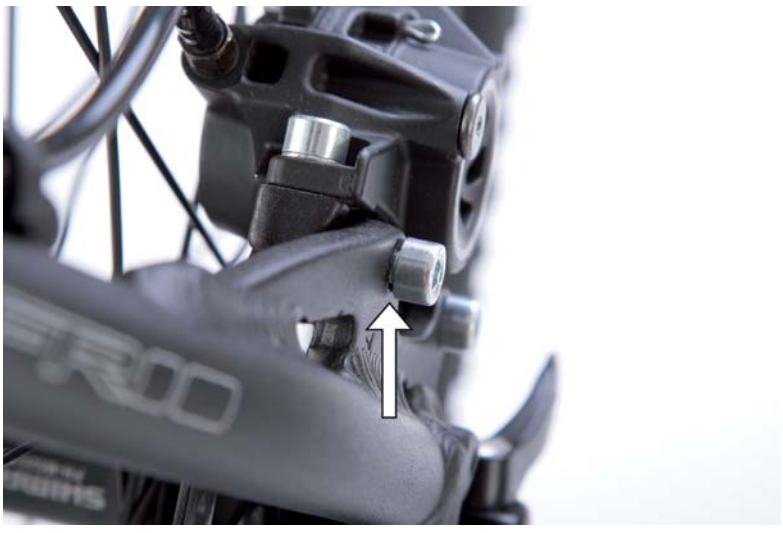
1.5.1 Symbols and signal words

Symbol and signal word	Meaning
⚠	**This draws your attention to how to deal with and the effects of safety information.**
⚠ **WARNING**	**This draws your attention to a dangerous situation which might result in death or injury if it is not avoided.**
⚠ **CAUTION**	**This draws your attention to a dangerous situation which might result in slight to moderate injury if it is not avoided.**
NOTE	*This draws your attention to possible damage to property and other important information.*

1.5.2 Abbreviations

Abbreviation	Meaning
°	Degree, measure of angle size
bar	Common unit of measure for air pressure
°C	Degrees Celsius, unit of temperature
DIN	German Institute for Standardisation
EN	European norm
EPAC	Electric Power Assisted Cycles, also pedelec (pedal electric) Bike with an additional electric drive which only operates when the driver also pedals at the same time.
h	Hour(s)
HWK	Chamber of Crafts (in Germany)
IHK	Chamber of Commerce and Industry (in Germany)
km/h	Kilometres per hour, unit of speed
kg	Kilogram, unit of mass
MTB	Mountain bike
Nm	Newton-metre, unit of torque
Pedelec	see EPAC
psi	**p**ound per **s**quare **i**nch, American unit of pressure (1 psi = 0.06897 bar)
RH	Frame height
StVO	Highway Code (in Germany)
SW	Wrench size, measure of tool sizes

1.5.3 Technical terms

Technical Term	Meaning
Wobble	Colloquial term for radial eccentricity of the rim
Torque	Also tightening torque. This states how much a screw should be tightened.
Dealer/approved workshop	A business which is authorised by the authorities and the manufacturer to call itself a specialist business for the sale and repair of conventional bikes.
Hand force	The force that an average adult can apply with moderate to average effort using one hand.
Manometer	Air pressure measuring device
Correctly tightened	Permanent screw connection in which the screw heads are positioned tightly against the component over their entire area.
Incorrect screw connection	A screw connection which is too loose and where the screw heads are not positioned tightly against the component over their entire area. This can generally be recognised by a gap between the screw head and component. 

1.5.4 Representation

In this user manual we use the following representation rules:

- Safety instructions are represented with a symbol, a signal word and in bold, see *section 1.5.1, Symbols and signal words.*
- Instruction texts are numbered.
- Cross-references are in italics.
- Representations in illustrations are not specific to any particular model. They apply to all bicycle models in this user manual.
- Here you will find an illustration with all of the bicycle components and parts referred to in the text: *Section 19, Overviews showing all of the Bicycle Components.*
- Position designations: in this manual we use the following names for the position of objects in space (position information): The words left, right, front and rear always refer to the position in the direction of travel.

2. For Your Safety

2.1 Follow the instructions in this user manual

⚠

- **Read this user manual carefully before using your bike for the first time.**
- **Please ensure that your specialist bicycle dealer has completed the delivery certificate for your bike and that you have received all of the documents referred to in the delivery certificate.**
- **You should contact your specialist bicycle dealer if any items are missing.**
- **Please ride your bike only after you have received all of the documentation and read it carefully.**
- **If you sell or give your bike to somebody as a present, you should also pass on this user manual to the new owner.**
- **User manual for children's and teenagers' bikes.**
- **In this case this user manual is directed at the guardians of the children and youths who use this bike.**
- **Where in this user manual sentences such as “You can get ...”, “Have your bike...” etc. occur, these are directed in each case at the child or youth and his/her bike.**
- **Go through this user manual together and explain all the points to your child, in particular the safety precautions.**
- **As guardian you are responsible for ensuring the safety of this bike and its proper use.**

2.2 Please consult your dealer

NOTE:
Even after providing advice and carrying out the final assembly, your bike dealer is still very important to you. He or she is your contact person for all types of servicing and maintenance, conversions and repairs. Please contact your specialist bicycle dealer if you have any questions concerning your bike.

2.3 Use your bike for its intended purpose

⚠
If you do not use your bike in accordance with the designated purpose this may result in dangerous riding situations, falls and accidents.
You should always use your bike as described in this user manual and any additional documentation that you may have.

2.3.1 What work may you carry out yourself on your bike?

⚠
Faults caused by incorrectly performed work to your bike may damage the bike and impair its operational safety. This can lead to dangerous riding situations, falls and accidents.

- **You may only carry out work to your bike which is described as such in this user manual and for which you have the appropriate tools.**
- **Do not change the properties of individual components of your bike.**
- **All other work may only be performed by a qualified specialist bicycle dealer.**

2.3.2 What must you bear in mind when retrofitting accessories and carrying out conversions?

⚠
The retrofitting of accessories and performance of conversions which are not permitted for your bike may damage your bike and impair its operational safety. This can lead to dangerous riding situations, falls and accidents.

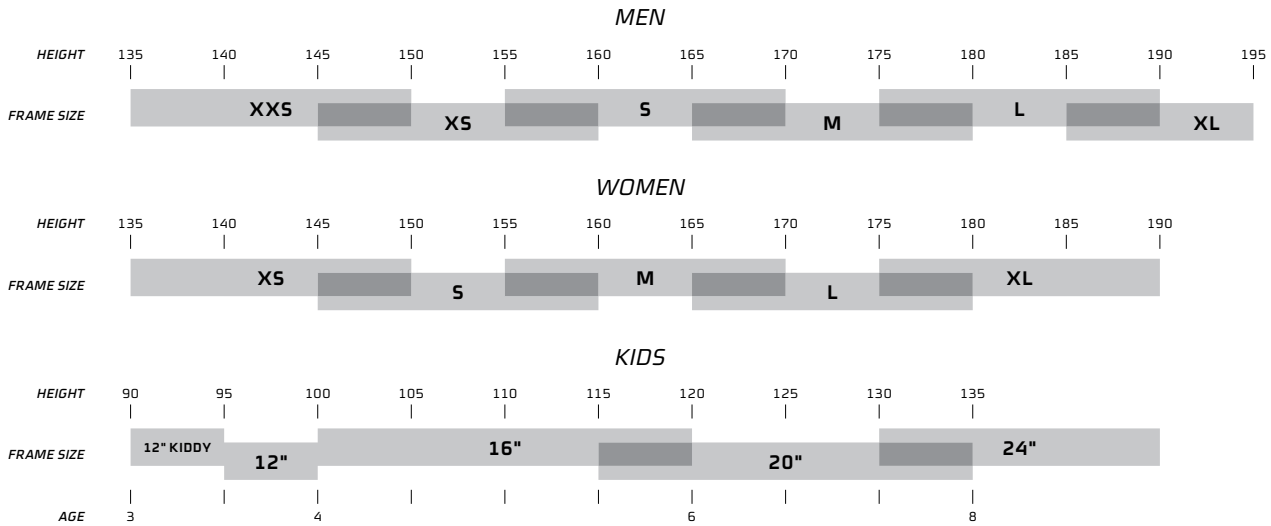
- **You should never retrofit your bike or carry out any conversions yourself.**
- **Always select the accessories and modification parts together with a specialist bicycle dealer. The following accessories can be retrofitted:**
  - Click pedals
  - Bicycle computer
  - Bottle holder (only if mounting possibility is available)
  - Equipment for riding the bike on public roads and paths in accordance with the regulations in force in your country (only if mounting possibilities are available)
  - Luggage rack (only if mounting possibility is available)
  - Child seat if you are using a luggage rack which is authorised for a child seat. Please ask your specialist bicycle dealer. He or she will be pleased to advise you.
  - Saddlebags if you are using a luggage rack which is authorised for saddlebags. Please ask your specialist bicycle dealer. He or she will be pleased to advise you.

- **The firm GHOST prohibits the use of replacement parts which differ in size compared to the original parts (such as forks or spring elements with a greater or lower installation height/length/travel, braking systems with larger brake discs, wider tyres, etc.).**
- **For replacement or retrofitting purposes the only parts which may be used are those that have been approved by GHOST for your bicycle model. Please consult your authorised GHOST specialist retailer on this.**
- **The retrofitting of electric drives to bikes made by GHOST is not permitted.**
- **Under no circumstances should you change the properties of the existing bicycle parts.**
- **Please ensure that you receive the documentation for your accessories and modification parts from your specialist bicycle dealer.**
- **Please ensure that your specialist bicycle dealer notes down in the delivery certificate which documentation you have received from him.**
- **Always take your delivery certificate with you if you purchase accessories and modification parts from your specialist bicycle dealer at a later time.**
- **Follow all of the safety instructions and specifications in the documentation for your accessories and modification parts.**

2.3.3 Who is allowed to ride your bike?

⚠

- **The rider must be able to ride a bike, i.e. he/she must have the necessary basic knowledge about the use of a bike and the necessary feeling of balance to be able to steer and control a bike.**
- **The rider must be able to safely get on and off the bike.**
  This applies in particular in the case of ergonomically adjusted saddles if the rider's feet cannot reach the ground when he or she is sitting down.
- **The rider must be of the correct height for the bike and the maximum permitted total weight *(see section 3.1, Permitted temperatures and permitted total weight)* must not be exceeded:**



NOTE:
The values given here are for guidance only. A smaller or larger frame height may be better, depending on various factors. Please consult your dealer if you have any questions.
He or she will be pleased to advise you.

- **Children and youths must be able to operate the bike safely. The type of bike, size and operating elements (e.g. brake levers) must be suitable for children's hands. Please contact your specialist dealer on this. He or she will be pleased to advise you.**
- **Physical and mental fitness: if the rider would like to ride on public roads and paths: the rider must be physically and mentally able to ride the bike on public roads.**

NOTE:
Information on the technical conditions of approval for use on public roads can be found in section 1.4, Legal regulations.

2.3.4 Where are you allowed to ride your bike?

⚠
If you overload your bike by riding on roads, paths and slopes for which your bike is not suited, it is possible that parts of your bike will break or fail. This can lead to dangerous riding situations, falls and accidents.
You should only ride your bike on roads, paths and slopes which are authorised for your model according to the following classification.

NOTE:
All bikes are divided up into categories
(see the following classification and section 4.1, Types, categories, ranges).

Explanations of the following categorisation

Symbol	Meaning
X	permitted
-	not permitted
X*	On public roads and paths only permitted with additional equipment required by law, see *section 1.4, Legal regulations.*

<table>
<tr><th>Designation</th><th colspan="2">Definition</th></tr>
<tr><td>Road</td><td colspan="2">Asphalt-covered routes</td></tr>
<tr><td>Paved paths</td><td colspan="2">Paths with a solid surface such as sand, gravel or similar items (e.g., forest path, dirt road)</td></tr>
<tr><td>Cross-country</td><td>Terrain includes roads, wood, field, gravel, crushed rock, forest paths, multiple ascents and descents</td><td rowspan="6">Routes with loose surface, roots, rises, stones, ledges, etc.
With increasing suspension travel distance, the terrain on which the wheels move also becomes increasingly coarser. The downhill ride on rough terrain becomes more and more important. The quality of the uphill ride is maintained with sophisticated suspensions, but becomes less important in the freeride category at the latest. The construction of the wheels is adapted to the more extreme riding conditions.</td></tr>
<tr><td>All mountain tour</td><td rowspan="4"> </td></tr>
<tr><td>All mountain trail</td></tr>
<tr><td>Enduro</td></tr>
<tr><td>Freeride</td></tr>
<tr><td>Downhill</td><td>High downhill speed on rough terrain, loose rocks, large roots, long jumps and strong impacts define these riding conditions</td></tr>
<tr><td>Dirt</td><td colspan="2">Trails specially created for this type of bike (BMX trails)</td></tr>
<tr><td>Sports park</td><td colspan="2">Terrain specifically designated for freeride / downhill / dirt</td></tr>
<tr><td>Jumps</td><td colspan="2">NOTE:
The execution of jumps with these bikes is generally permitted, although they are performed at your own risk. You should attend appropriate riding technique seminars to develop a feeling for which jumps are possible with which bikes. Corresponding skill and experience are the preconditions for the use of these sports bikes!</td></tr>
</table>

Model	Riding Conditions / Category										
	Road	Paved paths	Cross-country	All mountain tour	All mountain trail	Enduro	Freeride	Downhill	Dirt	Sports park	Jumps
SONA, KATO, KATO PRO, TACANA, TACANA PRO, LAWU, LANAO, LANAO PRO, POWERKID	X*	X	X	-	-	-	-	-	-	-	-
HTX, NILA, NILA EBS	X*	X	X	-	-	-	-	-	-	-	-
AMR, LANAO FS, KATO FS	X*	X	X	X	-	-	-	-	-	-	-
AMR LT, RIOT	X*	X	X	X	X	-	-	-	-	-	-
CAGUA, RIOT LT	X*	X	X	X	X	X	-	-	-	-	-
NORTHSHORE	X*	X	X	X	X	X	X	-	-	X	X
DOWNHILL (DH)	X*	X	X	X	X	X	X	X	-	X	X
THE HOOD, THE HOOD FS, THE HOOD PRO	X*	X	-	-	-	-	-	-	X	X	X
NIVOLET, SPEEDLINE	X*	-	-	-	-	-	-	-	-	-	-
PANAMAO, PANAMAO C, PANAMAO WAVE	X	X	-	-	-	-	-	-	-	-	-
PANAMAO X	X*	X	-	-	-	-	-	-	-	-	-

NOTE:
Bikes of other categories can also be fitted with racing bike or racing bike-type tyres. Such tyres can be recognised from the maximum width of 28 mm indicated e.g. by two numbers on the side of the tyre such as 28-622 or 28-559. The instructions for NIVOLET apply to these bikes. The tyre size is marked on the tyre wall.

⚠

Your safety on roads paths and cross-country terrain depends on your speed.
The higher your speed, the greater your risk!

- **Note that all streets and paths may be damaged or have obstacles that can threaten your safety and damage your bike.**

- **In such areas ride particularly slowly and carefully. If necessary push or carry your bike over such obstacles. Use the bike exclusively as a pure means of travel.**

- **There is a danger of falling if you ride the bike in a sporty manner, perform jumps or ride at high speed. Adapt the use of your bike to your riding skills.**

3. Technical Data

3.1 Permitted temperatures and permitted total weight

Admissible ambient temperatures	-10 to +50°C	
Maximum permitted overall weight	MTB incl. DOWNHILL, NORTHSHORE, THE HOOD, THE HOOD FS:	120 kg
	PANAMAO X, SPEEDLINE, NIVOLET:	120 kg
	PANAMAO, PANAMAO C, PANAMAO WAVE:	140 kg
	POWERKID 24":	100 kg
	POWERKID 20":	80 kg
	POWERKID 16"/12":	50 kg

3.2 Tightening torques for screw connections

Component	Manufacturer	Model/ Type	Connection	Type of Connection	Tightening torque (Nm)
Saddle support clamping to frame	All	Aluminium frame	Saddle support clamping	One screw	5 - 8
Saddle support clamping to frame	All	Carbon frame	Saddle support clamping	One screw	5 - 6

4. Design and Function

4.1 Types, categories, ranges

We produce various types of bikes. We have divided up these types into different categories and product ranges.

NOTE:
The categorisation can be found in section 2.3.4, Where are you allowed to ride your bike?

Type		Product range	Equipment standard according to German Highway Code	Hub Dynamo Front Wheel
Mountainbike (MTB)	Fully	• AMR • AMR LT • LANAO FS • KATO FS • RIOT • RIOT LT • CAGUA • NORTHSHORE • DOWNHILL(DH) • THE HOOD FS	-	-
	Hardtail	• SONA • KATO • KATO PRO • TACANA • TACANA PRO • LAWU • LANAO • LANAO PRO • NILA • HTX • THE HOOD • THE HOOD PRO	-	-
Crossbike		PANAMAO X	-	-
Racing bike, fitness bike		NIVOLET SPEEDLINE	-	-
Trekking and city bike		PANAMAO PANAMAO C PANAMAO WAVE	X	X
Children's and teenagers' bike	Hardtail	• POWERKID 20" • POWERKID 24"	-	-
	Hardtail with rigid front wheel fork	• POWERKID 12" • POWERKID 16"	-	-

4.1.1 Mountain bike (Fully + Hardtail)

No equipment according to German Highway Code, dérailleur, rim or disc brakes, wheels with rim diameters of 559 mm, 584 mm or 622 mm and a minimum tyre width of 52 mm.

4.1.1.1 Fully

- AMR Series:
- Fullies with 110 mm of travel in the front and 100 mm of travel in the rear.
  Bikes with weight-oriented equipment for the athletically-oriented rider.

- Series AMR LT, LANAO FS, KATO FS, RIOT, RIOT LT:
  – Fullies with 120-150 mm of travel in the front and 120-130 mm of travel in the rear. Ride equally well uphill and downhill.

- CAGUA Series:
- Fullies: with 160/120 mm of travel in the front and 155 mm of travel in the rear. Excellent riding profiles both downhill and uphill. But overall, there is a stronger focus on the downhill characteristics.

- DOWNHILL, NORTHSHORE Series:
- Fullies with 200 or 180 mm suspension travel distance front and rear. The main focus here is on the suitability for downhill and bike park.

- THE HOOD FS Series:
- Fullies with 100 mm of travel in the front and rear. Suitability for bike park and jumps is the priority here. Featuring the same equipment as a mountain bike.

4.1.1.2 Hardtail:

- SONA / KATO / TACANA, LAWU / LANAO Series:
- Hardtails with 100 – 120 mm of travel in the front. Solid bikes suitable for every-day use, built for bikers who love riding tours in their spare time.

- HTX, NILA, KATO PRO, TACANA PRO, LANAO PRO Series:
- Hardtails with 100/120 mm of travel in the front. Bikes with weight-oriented equipment for the athletically-oriented rider.

– THE HOOD, THE HOOD PRO Series:

– Hardtails with 100 mm of travel in the front. Suitability for bike park and jumps is the priority here.

– Featuring the same equipment as a mountain bike.

4.1.2 Crossbike (PANAMAO X Series):

No equipment in accordance with the German Highway Code, equipped with dérailleur, rim brakes or disc brakes, wheels with rim diameter 622 mm and tyre width of 42 mm.

– PANAMAO X Series:

– Hardtails with 60 mm of travel in the front. Bikes suitable for every-day use and speedy rides on roads and trails.

4.1.3 Road bike / fitness bike (NIVOLET, SPEEDLINE Series)

No equipment in accordance with German road traffic regulations (StVZO), derailleur, rim or disc brakes, wheels with 622 mm rim diameter.

NIVOLET Series:

-Road bikes without frame suspension and rigid fork for fast, athletic riding on the road
-Road bike handlebar
-Rim or disc brakes like mountain bikes
-Tire width: 23 mm

- SPEEDLINE range:
  - Bikes without frame suspension and rigid forks for rapid, comfortable progress on the road.
  - Straight or mountain bike-type handlebars
  - Gear shift lever as for mountain bikes
  - Rim or disc brakes as for mountain bikes
  - Tyre width: 35mm

4.1.4 Trekkingbike (PANAMAO / PANAMAO C / PANAMAO WAVE Series)

Equipment in accordance with German road traffic regulations (StVZO), equipped with derailleur or internal gear hubs, two rim or disc brakes, luggage rack, mudguards.

PANAMAO, PANAMAO C, PANAMAO WAVE: Series

Bikes without suspension or hardtails with 50 mm of travel in the front
Bikes suitable for every-day use, equipped with a complete package, for comfortable rides on roads and trails
Mountain bike-like handlebar
Gear-shift lever like on mountain bikes
Rim or disc brakes like on mountain bikes
Hub dynamo

4.1.5 Children's and teenager's bike (POWERKID range)

No equipment in accordance with StVZO, equipped with derailleur or no gears, rim and/or back-pedal brakes

- POWERKID 12 and 16":
  - Frame without suspension and rigid forks
  - No gears
  - Rim brakes front
  - Back-pedal brake rear
  - Stabilisers (optional)
  - Flag (optional)
  - Wheel size 12" or 16"

- POWERKID 20":
  – Very similar to a MTB
  – Hardtail with suspension fork with 35 mm of travel or rigid fork
  – Derailleur rear with 7 speeds
  – Rim brakes as for mountain bikes
  – Wheel size 20"

- Powerkid 24":
  – Corresponds to a MTB but with smaller wheel size
  – Hardtail with suspension fork with 50 mm suspension travel distance
  – Derailleur gear with 24 speeds
  – Rim brakes as for mountain bikes
  – Wheel size 24"

4.2 Frame and fork

Frame and forks are available in the following versions

- Hardtail without suspension: Frame and fork without suspension

- Hardtail with suspension: Frame without suspension, but suspension fork

- Fully: Frame with suspension and suspension fork

For full suspension bikes there are various suspension systems with different numbers of pivot joints.

The number of pivots can be easily counted. The connection to the spring element does not count as a pivot.

4.3 Brakes

4.3.1 Brake assignment

- Your bike has one or two brakes which are independent of one another.
- On some models the rear brake is operated by “pedalling backwards” (backpedal brake).
- In the standard case the brake lever attached to the left handlebar operates the front brake and the right-hand brake lever the back brake. This may vary, however, depending on requirements and the local legal regulations. You should always familiarise yourself with which lever applies to which brake and get used to using them.
- If your bike has two hand brake levers of the same type, you can have them changed over by your specialist dealer if you wish.

4.3.2 Brake type

The following brakes are installed on our bikes:

- Hydraulic disc brake

- Rim brake
  - Hydraulic rim brake (Magura HS11 and HS33)

- Mechanical rim brake (V-brakes)

- Rim brake of the racing bike

- Backpedal brake (only on the rear wheel)

4.4 Gears

The following switching devices are installed on our bikes:

- Derailleur

- Hub gear

- No switching device (single speed)

4.4.1 Derailleur

A derailleur provides you with the optimum gear for every speed and makes it easier to climb hills, for example.

When the gear is changed, the chain is moved to a different cog. On the crankset these cogs are referred to as “chainrings”, and on the geared ring as “sprockets”.

The gear can only be changed while the bike is moving. The crankset must turn in the direction of the drive.

The gear change on the left handlebar operates the front derailleur on the crankset. Switching to a larger chainring results in a higher gear ratio (= higher gear). The resistance to pedalling becomes higher, but you can reach a greater speed.

The gear change on the right handlebar activates the rear derailleur. Here switching to a larger sprocket results in a lower gear ratio (= lower gear). The pedalling resistance becomes lower, you can reach a lower speed, but it is easier to climb hills.

The number of gears is determined as follows: Number of chainrings at the front multiplied by the number of geared rings at the back, e.g. 2 chainrings x 10 geared rings = 20 gears.

4.4.2 Hub gear

In the case of hub gears the gearing is located in the rear wheel hub. When the gear change is operated, various cogs mesh with one another and thereby change the gear ratio.

For bikes with a hub gear we use the Shimano Alfine 8 and 11-speed gear hub with freewheel, i.e. without a backpedal brake.

4.4.3 Gear change

The following gear changes are mounted on our bikes:

- Shimano gear lever for MTB

- Sram gear lever for MTB

- Shimano brake/gear lever combination for MTB

- Shimano brake/gear lever combination for racing bike

- Shimano brake/gear lever combination for Di2 electric switching for racing bike

- Sram brake/gear lever combination for racing bike

- Shimano twist grip gear change for MTB

4.5 Clamping systems for wheels and saddle post

On our bikes we use the following axle clamping systems for wheel and saddle post attachment:

- Quick-release axles

- Quick-release axle saddle post

- Thru-axles

- Screw clamping

4.6 Materials

4.6.1 Breakdown

For our bike frames we use aluminium alloys and carbon materials. Our brand bikes with carbon frames are marked with the name “LECTOR” in the type designation. All other bikes are manufactured with an aluminium frame.

4.6.2 Information and instructions on the carbon material

⚠ **WARNING Danger from falls and accidents**

Carbon is a modern material in bike and motor vehicle construction. However, carbon parts are sensitive to damage. Mistakes during assembly or use can result in fractures and hence in dangerous riding situations, falls, accidents and material damage.

Impact loads that occur if using the bike for other than the designated purpose, or in the case of falls, accidents and flying stones, can lead to invisible damage in the carbon fabric and/or to delaminations (= separation of the bonded carbon layers).

Such prior damage together with the forces occurring during operation can cause carbon parts to suddenly break and hence result in dangerous riding situations, falls, accidents and material damage.

- **Be sure to observe all of the following instructions on the use of carbon parts.**
- **After accidents or other major mechanical loads not caused by normal bike operation, carbon frames and parts may no longer be used.**
- **After a fall you should immediately contact a dealer authorised by the manufacturer and have the parts concerned sent in to the manufacturer for inspection.**
- **If you have any questions concerning how to handle carbon parts, please contact your specialist dealer. He or she will be pleased to advise you.**

Carbon is a colloquial expression for carbon fibre-reinforced plastics. This designates a fibre-plastic composite material in which the carbon fibres are embedded in several layers in a plastic matrix.

This matrix consists of thermosetting plastics (epoxy resin). The primary functions of the matrix material are to transmit and distribute the occurring forces and to fix the fibres.
As with all fibre composite materials, the tensile strength is significantly higher than the strength transverse to the fibre direction. The carbon fibres are therefore arranged in multiple directions in order to be able to meet all the occurring forces.

4.6.2.1 Information on the frame construction

Exact analyses and realistic simulations of the forces occurring in the frame have enabled the fibre orientations in the different areas, such as in the pedal bearings or at the control tube, to be designed more efficiently.
These high-end products are produced manually. Differences can therefore occur in the finish, but these are not grounds for complaint.

4.6.2.2 Proper handling of carbon parts

1. Under no circumstances should you install clips, screw connections, clampings or other elements which exert mechanical forces on the carbon tube. Excluded from this are the areas of components e.g. handlebars and saddle posts which are explicitly designated as such. Nevertheless, it is important here to comply exactly with the tightening torques!
2. Clamping to mounting stands or other forms of clamping:
   - Never clamp your bike at a carbon tube or carbon saddle post in the jaws of an assembly stand.
   - For clamping in an assembly stand you should temporarily use a saddle post with the same diameter. For instructions on dismantling and installation please see *section 13.2, Dismantling and installing saddle post with saddle.*
3. Take care when using shackle locks! Under certain circumstances these can damage your frame.
   - Ensure when using shackle locks that these only touch the corresponding carbon tube and do not exert any clamping force or weight.
4. Saddle clamping bracket / saddle post
   - The prescribed tightening torque of the saddle clamping bracket bolt is 5 – 6 Nm.

- The saddle tube must not be reamed out or otherwise mechanically machined.
- Saddle post and saddle tube must not be greased. Use only the carbon assembly paste supplied with the bike.
- Saddle posts may only be assembled in a carbon frame using the carbon assembly paste supplied.
- The saddle clamp must not be closed when the saddle post is removed, as otherwise irreparable damage to the saddle tube may result.
- Take the saddle post out of the frame approximately every two months, clean it and apply new carbon assembly paste. *See section 13.2, Dismantling and installing saddle post with saddle.*

5. Bottle holders:
   - The thread sets are provided for the attachment of commercially available bottle holders. The maximum tightening torque of the screws for fastening the bottle holder to the frame is 4 Nm.
6. Roller training:
   - The use of roller trainers with rigid clamping is not permitted. The rigid clamping of the fork ends or quick-release axle exerts loads that differ significantly from those occurring during the permitted use for riding. This can result in damage to the bike frame.
   - Use on a loose roller without rigid clamping of the frame is permitted.
7. Transport: See *section 13, Transporting the Bike.*

4.7 Tyres

GHOST bikes have different tyres as standard. The tyre brand, type, size and air pressure information can be found printed on the tyre walls.

As far as the valve types are concerned, we mainly use inner tubes with Sclaverand valve (SV), which is colloquially known as the “French valve”. The models of the POWERKID range may include inner tubes with a Sclaverand valve (SV) and an automatic valve (AV). For the version, please refer to the following illustration.

If replacement inner tubes are used, it must be ensured that only inner tubes are used which contain the same valves as the original inner tube, as the diameter of the SV and AV valves differ from one another.

Automatic valve (AV)

Dunlop valve (DV)

Sclaverand valve (SV) (French)

5. Frame Sets

⚠ **WARNING Danger from falls and accidents**

Mistakes during the assembly of your bike and the use of unsuitable attachments can result in serious falls!

Several GHOST bike frames can be purchased individually and also structured according to your individual wishes. Anyone constructing a bike frame into a complete bike is deemed to be the manufacturer and is liable for any assembly errors or defects.

- **THE FIRM GHOST ONLY AUTHORISES THE MOUNTING OF ITS FRAMES BY ITS AUTHORISED SPECIALIST RETAILERS.**
- **This manual does not represent assembly instructions for converting your frame set into a complete bike.**
- **The only parts which may be used for constructing a frame are those whose type and dimensions are the same as the parts used for the bicycle range.**
- **You should select your components only together with your specialist dealer. He or she knows which parts are suitable for your frame.**

6. Before Using for the First Time

⚠ **WARNING Danger from serious falls and accidents**
Your bike is pre-assembled before being shipped to your dealer. Some of the safety-relevant parts are not yet sufficiently mounted or adjusted. The final assembly of your bike has to be carried out by your specialist bicycle dealer, i.e. it has to be made safe to ride.

- **Please make sure that your specialist bicycle dealer has completely filled in the “Inspection Checklist for the Handover” in the delivery certificate for your bike.**
- **You should only ride your bike if the sitting position is correct for you.**
- **Have your dealer adjust the correct saddle height and position for you.**
- **Ask your specialist bicycle dealer to explain to you the technology included in your bike.**
- **Protect your bike with spray wax. See *section 14.2, How to clean and care for your bike.***

7. Before Every Use

⚠ **WARNING Danger from falls and accidents**
A bike that is not completely ready for safe operation can lead to dangerous riding situations, falls and accidents.

- **Before you ride your bike you should ensure every time that it is safe to operate.**
  You should also consider the possibility that your bike may have fallen over when it was not supervised or that strangers may have tampered with it.
- **Memorise the correct condition of your bike when new so that you can later more easily recognise any deviations from the correct condition.**

NOTE:
Photographs you take yourself can be helpful in this.

- **Contact your dealer immediately if the inspection reveals faults of any kind. You may correct small defects yourself if the appropriate measures are described below.**
- **You should contact your specialist bicycle dealer immediately if the measures for rectifying the defect are not described, you cannot perform them yourself or if these measures do not correct the problems.**
- **You should only use your bike again when it has been made safe to operate.**

1. Perform a visual check of all fastening screws to ensure that they are all correctly attached. *See section 1.5.3, Technical terms.*
2. Carry out a visual inspection of the entire bike for dents, cracks, deep scratches or other mechanical damage.
3. If you find any defects during the test: contact your specialist bicycle dealer.

NOTE:
In the following sections the tests for the standard equipment of all GHOST bikes are described. Some sections only apply if your bike has the listed equipment. This can be found in the section on "Design and Function". If you are not sure which tests apply to your model of bike, please contact your specialist dealer. He or she will be pleased to advise you.

If your bike has been converted or retrofitted with other parts, new or other tests may be required. Please refer to the instructions in the corresponding user information or contact your dealer. He or she will be pleased to advise you.

7.1 Inspecting the wheels

NOTE:
Inspect the front and rear wheels.

A wheel consists of:

- Hub
- Only on the rear wheel hub: Geared ring/pinion or sprocket assembly/sprocket set, often called the cassette
- Brake disc (disc brake system only)
- Spokes
- Rim
- tyres (see following field)

Currently there are three types of tyres:

- Wire or folding tyres:

This is the most commonly used type of tyre and consists of

– Tyre

– Inner tube and

– tube protector (only for rims with holes for spokes)

In the tyre there is a wire or bead ring which upon being pumped up is suspended in the rim flange.
Field of application: All categories

- Tubeless tyres:

Special rims (with or without spoke holes that are sealed to be airtight) and tyres are sealed to be airtight and make a tube superfluous. Nevertheless, in the case of a breakdown such a tyre can be mounted.
Field of application: Mountainbikes, crossbikes, racing bike/street

- Tube tyres:

The tube is sewn into the tyre. The tyre, including the tube, is adhered during assembly on to the specially built rim. Here the assembly instructions of the tyre, adhesive and rim manufacturers are to be followed.
Field of application: Mountainbikes, crossbikes, racing bike/street

Please consult your specialist dealer on questions about your tyre type and size:

On bikes with StVZO approval, rim reflectors may also be installed.

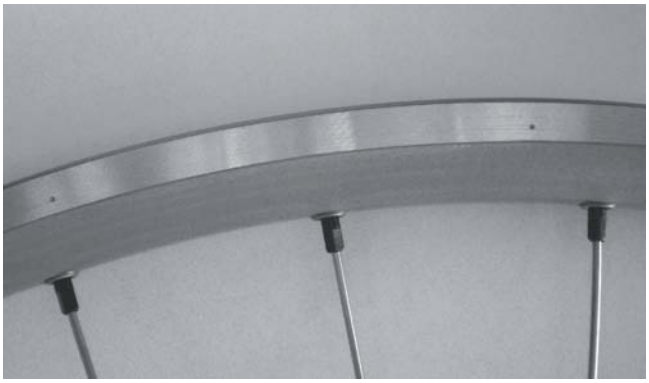
7.1.1 Checking the position and tight fit

1. Shake both wheels strongly at right angles to the direction of travel.
   - The wheels must not move in their mounting.
   - The quick-release lever and thru axle must be closed
     See section 8.6, Operating the clamping systems for wheels and the saddle post.
2. No cracking or grinding noises should be heard.
3. Carry out a visual inspection of the wheel installation.
   - The wheels must be located centrally between the frame and brake.
   - The wheels must be located centrally between the luggage rack struts if a luggage rack is mounted.
   - The tyres must run parallel to the mudguards if any are installed.
   - No part of the wheel may touch the frame, mudguards, luggage rack or other parts. Road bikes have a minimum distance requirement of 4 mm from wheel to all other parts. For all other bicycles, the minimum distance is 6 mm. Exception: Brake pads and brake blocks may be positioned very closely to the brake disk or rim as long as they do not make contact.

7.1.2 Checking the wheel rims

7.1.2.1 Checking the rims for wear (only applies to bikes with rim brakes)

1. Check that the wear indicators (circumferential groove or several small drill holes in the rim edge) are visible.



2. Run your finger nail across the rim flank. You should not feel scratches or scores.

7.1.2.2 Checking the rims for wobble:

1. Pick up the bike and rotate the front- and rear wheel in turn.
2. Pay attention to the clearance between rim and brake blocks, on bikes with disc brakes to the distance between rim and frame strut or fork rod. Maximum permissible deviation per revolution:
   - 0.5 mm for rims with rim brake
   - 2.0 mm for rims without rim brake

7.1.2.3 Checking the rims for soiling (only applies to bikes with rim brakes)

1. Inspect the rims for soiling, in particular for oil or grease. Soiled rims must be cleaned immediately (see *section 14.2, How to clean and care for your bike).*

7.1.2.4 Checking the tyre

1. Inspect your tyres for visible signs of damage, foreign bodies and wear.
   - The tyre rubber must have its original profile over its whole surface.
   - The tyre fabric under the rubber layer must not be visible.
   - There must be no visible blisters or cracks.

2. Remove any foreign bodies (thorns, small stones, pieces of glass or similar items) by hand or carefully with a small screwdriver. Check if air is then leaking out.
   - If air is leaking out the inner tube has to be renewed. You may change the inner tube of the wheel yourself. For instructions on how to do so, see *section 15.5.1, Changing the inner tube and tyre.*

7.1.2.5 Checking that the tyre is correctly fitted

1. Lift the front wheel.
2. Turn the front wheel by hand. The tyre must run smoothly. There must be no wobble or eccentricity.
3. Check the back wheel in the same way as the front wheel.

7.1.2.6 Checking valve position (not on tubeless tyres):

1. If necessary, remove the valve nut.
2. Check the valve position: The valves must be pointing towards the middle of the wheel.

7.1.2.7 Checking the air pressure

As a result of low tyre pressure

- the tyre and inner tube may move on the rim and result in the incorrect positioning of the valves. The valve base may tear off during the journey and result in a sudden loss of pressure in the tyre.
- the tyre may come off the rim in curves.
- the likelihood of a breakdown is increased.

NOTE:
The required air pressure can vary by manufacturer and the model of tyre. Follow the manufacturer's instructions for the correct tyre air pressure on the tyre side wall. If you have any questions, please contact your specialist bicycle dealer. He or she will be pleased to advise you.

Some tyre pressures are indicated in "psi". Convert the tyre pressure into bar using the following table.

psi	30	40	50	60	70	80	90	100	110	120	130	140
bar	2.1	2.8	3.5	4.1	4.8	5.5	6.2	6.9	7.6	8.3	9.0	9.7

Check the tyre pressure using a tyre pressure gauge. Suitable devices are available from specialist shops. For details of their use, please refer either to the user manual supplied with the gauge, or consult your local dealer.

For tyres with automatic valves you can also check and correct the air pressure at filling stations.

- If the pressure is too low: Increase the inflation pressure using a suitable pump.
- If the pressure is too high: Release the necessary amount of air via the valve, then check the inflation pressure again.

NOTE:
A bike pump with pressure gauge allows you to check the inflation pressure while inflating. First allow a little air to escape from the tyre, then inflate to the required value.

There are various types of valves (see section 4.7, Tyres). All valves can be fitted with a dust cap. In the case of a Schraeder (Auto) valve or Dunlop valve, the pump head can be connected directly after removing the cap. In the case of a Sclaverand (French) valve you first have to loosen the small lock nut on the valve as far as it will go, then tighten it again completely after inflating the tyre. Have the use of the valves explained to you by your dealer.

7.1.3 Checking other points

1. Check whether there are any other loose items such as twigs, substance residues or similar items in your wheels.
2. Remove such items carefully.
3. If you have had spoke reflectors fitted, check that these are firmly fitted in place.
4. If they are loose, please remove them completely.
5. Check whether your wheels have been damaged by these loose parts.

7.2 Inspecting the saddle and saddle post

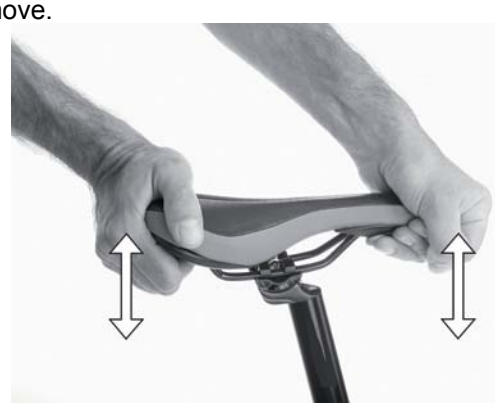
⚠ **WARNING Danger from serious falls**
If the insertion depth of the saddle post is too small, it may be released from the frame while you are riding and lead to dangerous situations, falls and accidents. Furthermore, if the insertion depth of the saddle post is too small, this may cause damage to the saddle post and frame.

- **Pay attention to the correct insertion depth of the saddle post.**

1. Carry out a visual inspection of the saddle post. The “STOP” or “MAX” mark must not be visible.

2. Try to twist the saddle and post in the frame by hand.
   It must not be possible to twist the saddle and saddle post.

3. Try to move the saddle in its clamping with your hand by alternately pushing down and pulling up.
   The saddle must not move.



4. If the saddle and/or saddle post can be moved, they should be tightened up (see *section 8.6.3, Opening and closing the quick-release axle on the saddle post clamping and section 8.1, Adjusting the saddle height).*

7.3 Inspecting the handlebars and handlebar stem

⚠ WARNING Danger from falls and accidents
Incorrectly mounted or damaged handlebars and handlebar stems may result in dangerous riding situations, falls and accidents.

- **If you discover damage to these parts or have any doubt about their integrity, you must not use your bike again.**
- **Contact an approved workshop immediately.**

1. Perform a visual check of the stem and handlebars.
   - The handlebar stem must be parallel to the front wheel rim.
   - The handlebars aligned at right angles to the stem.
2. Clamp the front wheel between your legs.
3. Grip the handlebars at both ends.
4. Try to twist the handlebars in both directions with your hands.

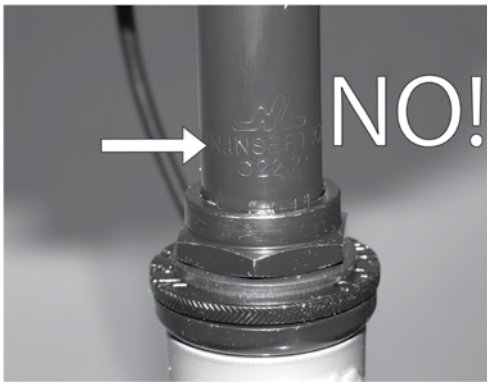
5. Try to twist the handlebars in the handlebar stem with your hands.

- None of the parts must twist or move.
- No cracking or grinding noises should be heard.

A quill stem is mounted on the following models.

- POWERKID 12"
- POWERKID 16"

6. Carry out a visual inspection of the stem shaft. The “Stop” or “MAX” mark must not be visible.



7.4 Inspecting the handlebar attachments

How to check the attachment of the gear lever, brake levers and grips:

1. Grip the front wheel firmly between your legs or hold the handlebars tightly with one hand.
2. Try to turn the brake levers with your other hand.

3. Try to turn the gear lever with your other hand.
4. Try to pull the handlebar grips off the handlebars with your other hand.
5. If your bike has been retrofitted with a bell, try to twist this with light hand pressure.

- None of the parts must twist or move.
- No cracking or grinding noises should be heard.

7.5 Inspecting the headset

The headset is the mounting of the handlebar stem in the fork column. Via this mounting, steering movements are transmitted to the front fork.

1. Check your headset. It must be possible to steer the front wheel easily in both directions without backlash.
2. Stand alongside your bike and hold the handlebar grips with both hands.
3. Apply the front wheel brake and keep the brake applied.
4. Push your bike forward and back with short, jerky movements.
   - The headset must not exhibit any play.
   - No cracking must be heard or felt.
   - No crunching noise may be heard.
5. Turn the handlebars with the front wheel several times to the left and right.
   - It must be possible to steer the front wheel easily in both directions without any play.
   - The handlebars must not lock in any position.
   - If the check reveals any faults: Contact your specialist bicycle dealer.

7.6 Inspecting the spring fork

1. Apply the front wheel brake and keep the brake applied.
2. Press with your body weight onto the handlebars so that the spring fork is compressed and release the pressure on the handlebars immediately.
3. The fork must move evenly up and down.
4. No cracking or grinding noises should be heard.
5. Grip the front wheel between your legs and try to pull up the bike by the handlebars. The standing tubes must not be released from the fork tubes or from the crown.
6. See also the corresponding instructions in the separate user manual for your suspension fork.

7.7 Inspecting the rear wheel suspension

1. Sit on the bike and alternately compress and relieve the suspension by short up- and down movements.
2. The rear end of the bike must move evenly up and down.
3. No cracking or grinding noises should be heard.
4. See also the instructions in the separate user manual for your suspension fork.

7.8 Inspecting the brakes

⚠ **DANGER Danger from serious falls**
Failing brakes always lead to dangerous riding situations, falls and accidents. A brake malfunction is a serious danger to safety.

- **Pay particular attention when checking your brake system.**
- **Under no circumstances should you continue using your bike if it has any defects. Contact your specialist workshop immediately if you discover any defects.**

NOTE:
During prolonged tours over several days the brake disc and brake pads can become severely worn.

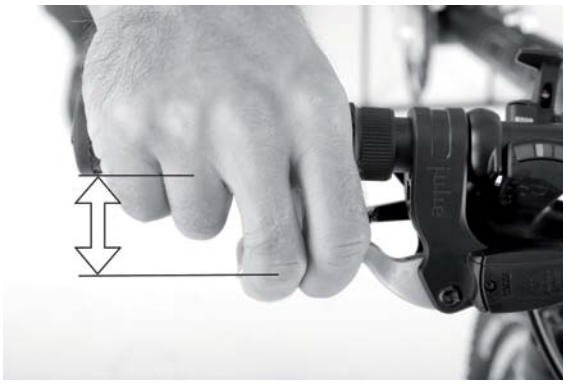
- *You should plan tours lasting several days in such a way that you can have any necessary servicing work carried out at specialist workshops.*

- *As a precaution you should carry brake linings for your brakes with you. If you do this you will avoid having to break off your tour if the specialist workshop does not have your type of brake linings in stock.*

7.8.1 Checking general functions

How to check the function of your braking system:

1. Pull on both brake levers completely with the bike at a standstill. The smallest distance between the brake lever and handlebar grip must be at least 10 mm.



2. Try to push the bike with both brakes applied. Both wheels must remain locked.

7.8.2 Checking the hydraulic disc brake

⚠ **WARNING Danger from falls and accidents**
Oil and grease on the brake discs can reduce the braking effect and lead to dangerous riding situations, falls and accidents.

- ***Soiled brake discs must be cleaned immediately, see section 14.2, How to clean and care for your bike.***

1. Carry out a visual inspection of the screw connections of the entire braking system. All screws must be tight.
2. Pull the brake calliper alternately in all directions with your hands. The brake calliper must not move.

3. Pull the respective brake lever with the bike at a standstill and hold the brake lever in this position. Carry out a visual inspection from the brake lever along the lines up to the brakes. No hydraulic fluid should escape at any point. Moreover, the resistance/pressure point on the lever must not fall.
4. Inspect the brake disc for damage. It must not exhibit any dents, cracks, deep scratches or other mechanical damage.
5. Raise the front and rear wheels alternately and turn the wheel by hand. The brake disc must run smoothly.
6. Inspect your brake discs for soiling, in particular for oil and grease. Clean the soiled brake discs immediately *(see section 14.2, How to clean and care for your bike).*

7.8.3 Checking the hydraulic rim brakes

1. Carry out a visual inspection of the screw connections of the entire braking system. All screws must be tight.
2. Try to pull the brakes out of the shoes with your hands. It must not be possible to pull the brakes blocks out of the shoes by hand.
3. Pull the respective brake lever with the bike at a standstill and hold the brake lever in this position.Carry out a visual inspection from the brake lever along the lines up to the brakes. No hydraulic fluid should escape at any point. Moreover, the resistance/pressure point on the lever must not fall.
4. Press both brake levers.
   - All brake shoes must contact the rim flank with practically their whole surface area.
   - In no position, i.e. even when the brakes are not applied, may the brake shoes touch the tyres.

5. Carry out a visual inspection of the brake blocks. The brake blocks must not be worn beyond the wear indicator.

6. Carry out a visual inspection of the brake position. The brake shoes must have the same distance to the rim on both sides.

7.8.4 Checking the rim brake with cable (MTB version)

1. Carry out a visual inspection of the brake cables and their clamping.
   - The brake cables must not be damaged or corroded.
   - The brake cables of cable brakes must be clamped over the entire width of their cable clamping.

2. Carry out a visual inspection of the screw connections of the entire braking system. All screws must be tight.
3. Try to pull the brakes out of the shoes with your hands. It must not be possible to pull the brakes blocks out of the shoes by hand. A slight backlash is normal.

4. Press both brake levers.
   - All brake shoes must contact the rim flank with practically their whole surface area.
   - In no position, i.e. even when the brakes are not applied, may the brake shoes touch the tyres.

5. Check the wear of the brake blocks.
   - To do so, remove the brake from its fitting (see *section 13.1.5, Opening and closing the brakes)*
   - The brake blocks must not be worn beyond the wear indicator.

6. Carry out a visual inspection of the brake position. The brake shoes must have the same distance to the rim on both sides.

7.8.5 Checking the rim brake with cable (racing bike version)

1. Carry out a visual inspection of the brake cables and their clamping.
   - The brake cables must not be damaged or corroded.
   - The brake cables of cable brakes must be clamped over their full width.

2. Carry out a visual inspection of the screw connections of the entire braking system. All screws must be tight.
3. Try to pull the brakes out of the shoes with your hands. It must not be possible to pull the brakes blocks out of the shoes by hand.

4. Press both brake levers.
   - All brake shoes must contact the rim flank with practically their whole surface area.
   - In no position, i.e. even when the brakes are not applied, may the brake shoes touch the tyres.

5. Carry out a visual inspection of the brake blocks. The brake blocks must not be worn beyond the wear indicator.

6. Carry out a visual inspection of the brake position. The brake shoes must have the same distance to the rim on both sides.

7.8.6 Checking the back-pedal brake

1. Ride at walking pace.
2. Pedal “backwards” against the driving direction.
3. The rear wheel must be sharply braked.

7.9 Inspecting the drive and chain

1. Turn the right-hand pedal arm in an anti-clockwise direction and observe the chainwheels and the sprocket assembly from above. On bikes with a backpedal brake, ask someone to lift the back of the bike and turn the right hand crank in the drive direction.
   - The chainwheels and sprockets must not have any lateral runout.
   - There must not be any foreign matter in any of the components. Remove any such foreign matter if it is easy to do so.
2. Press the left-hand pedal arm towards the chain run in the position shown.

   - You should not feel any bearing play.
   - No cracking or grinding noises should be heard.
3. Inspect the chain for damage. The chain must not be damaged at any point, e.g. by bent chain links, protruding chain link pins, etc. or jammed and immobile chain links.
4. With the bike at standstill, turn the right-hand pedal lever contrary to the drive direction and observe the chain run at the derailleur rollers of the rear derailleur. The chain must run smoothly over the derailleur rollers and must not “jump”. (This test does not apply to bike with backpedal brakes)

7.10 Inspecting the lighting system

⚠ WARNING Danger from falls and accidents
Failure of the headlight and rear light can lead to dangerous riding situations in the dark or with poor visibility. You might fail to see obstacles or be overlooked yourself by other road users.

- **In poor visibility conditions, you should operate your bicycle only when the lights are turned on and working properly.**

1. Turn your lights on. See user information for your lights or ask your dealer.

2. Lift the front wheel if you have dynamo-powered lights.
3. Rotate the front wheel vigorously by hand.

   - The headlight and rear light must come on.
   - If your bike has a parking light, the headlight and rear light must also light up when the front wheel stops turning.

4. If you have battery-powered lights either on your bike or as an accessory, check whether these light up after you have switched them on.

7.11 Inspecting the luggage rack

⚠ WARNING Danger from falls and accidents
Loose or hanging parts of the luggage rack can become trapped in the wheels, jamming them and resulting in serious falls.
Use your bike again only when the luggage rack has been properly secured in an approved workshop.

1. Shake the luggage rack at right angles to the direction of travel with your hands.

   - The luggage rack mountings must not come loose.
   - The luggage rack or parts of it must not touch the tyre.

7.12 Inspecting the mudguards

⚠ WARNING Danger from falls and accidents
Loose or hanging parts of the mudguards can injure you, jam the wheels and result in serious falls.

1. Carry out a visual inspection of the mudguards. The mudguard and its mounting struts must not be bent or damaged.
2. Move the front wheel sharply to left and right using the handlebars with the bike at standstill.
3. Tilt the whole bike back and forth several times at right angles to the direction of travel.

   - No part of the mudguards or their attachment elements may come loose.
   - No part of the mudguards may touch the wheels.

7.13 Checking the side stands

⚠ WARNING Danger from falls and accidents
A side stand can lead to serious falls when riding if unfolded. This also applies to a kickstand which folds out automatically while you are riding.

A side stand which is bent, too short or too long will not provide your bike with sufficient stability. It could tip over, causing injury to you or someone else and damage any items that are nearby, such as other bikes, cars, etc.

- **Always fold away the kickstand before riding the bike.**
- **You should have bent or broken kickstands repaired or replaced in a specialist workshop.**
- **Kickstands whose length can be adjusted:**
  have the right length adjusted in a specialist workshop if your bike is not stable.

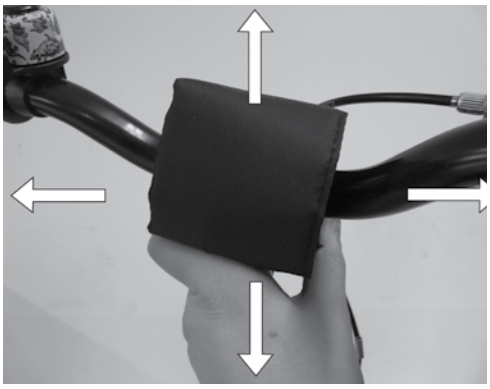
1. Carry out a visual inspection of the stand and its screw connections.
   - All screws must be tight.
   - The stand must not be bent.
2. Always fold up the kickstand before riding your bike. The stand must not fold downloads of its own accord.
3. Lightly tap the arm of the kickstand in a downwards direction. The arm of the kickstand must not fold downwards.
4. With length-adjustable stands: using hand force, check if all of the parts are tight. It must not be possible to move anything.

7.14 Checking parts specific to children's bikes

Protective covers on the handlebars, stem and chain stay are mounted on the following models:

- POWERKID 12"
- POWERKID 16"

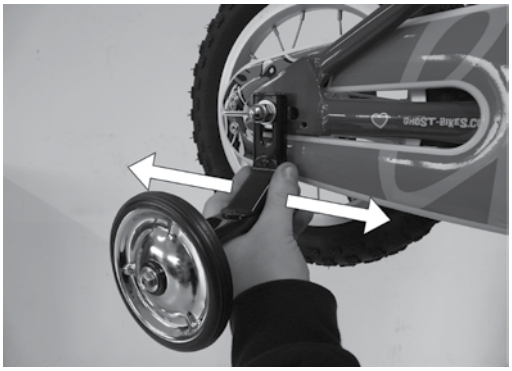
1. Check that these covers are in place.
2. Check that these covers are secure and can only be moved or removed with a high degree of manual force.



Stabilisers can be mounted on the following models:

- POWERKID 12"
- POWERKID 16"

1. Check their attachment.
2. Try to move training wheels by hand. You should not be able to do so



7.15 Checking other points

1. Carry out a general visual inspection of your bike. There must not be any protruding sharp-edged or pointed parts.

8. Adjusting and Operating the Bike

⚠ **WARNING Danger from falls and accidents**
If work is not carried out professionally on your bike, this may endanger its safety and result in dangerous situations during riding, as well as falls and accidents.

- **You should only carry out the adjustment work described.**
- **Make these adjustments only if you have the necessary tools and manual skills.**
- **Under no circumstances should you carry out any other adjustments.**

NOTE:
In the following sections the adjustments for the standard equipment of all GHOST bikes are described. Some sections only apply if your bike has the listed equipment. This can be found in section 4, Design and Function. If you have any questions, please contact your specialist bicycle dealer. He or she will be pleased to advise you.

8.1 Adjusting the saddle height

⚠ **WARNING Danger from falls and accidents**
With children, and particularly those who do not yet have a complete command of bike riding, adjustment of the saddle too high can lead to dangerous riding situations, falls, accidents and material damage.

- **Adjust the saddle height such that the child can touch the ground with both feet when sitting on the saddle.**

NOTE:
A description of how to operate the saddle post clamping can be found in sections 8.6.3, Opening and closing the quick-release axle on the saddle post clamping and 8.6.5, Opening and closing the screw-nut clamping on saddle posts.

1. Loosen the clamping of the saddle post.
2. Move the saddle with saddle post to the desired position.
3. Clamp the saddle post securely in position.

8.2 Adjusting the spring fork

8.2.1 Forks with air suspension

8.2.1.1 Adjusting the air pressure

NOTE:
Your suspension fork has air suspension. You can adjust the springing behaviour by means of the air pressure. For the adjustment you need a special suspension fork pump. The use of other pumps may damage your suspension fork.

- You can purchase a suspension fork pump that is suitable for your bike from your bicycle dealer. If you do not have such a pump, have your suspension adjusted by your specialist dealer.

1. The correct air pressure for your total weight can be found either on the imprint on your fork, the enclosed user information or by contacting your dealer.
2. Screw the head of the suspension fork pump on to the connection of your suspension fork. Position of the connection: See the user information of the suspension fork manufacturer.
3. Continue pumping until you have reached the prescribed air pressure.
4. Unscrew the pump head.

   NOTE:
   Unscrew the pump head quickly in order to keep the amount of air escaping (which can be heard as hissing) as small as possible.

8.2.1.2 Switching the suspension on and off

NOTE:
Various bikes have the possibility of almost completely blocking the suspension of the fork by means of a lever on the handlebars. The fork can then only move in and out to a small extent.

⚠ **WARNING Danger from falls and accidents**
At a high speed, particularly when riding downhill on unpaved terrain, riding behaviour with the suspension switched off is very poor. The front wheel may lose contact with the ground.
You should switch on the suspension fork before riding your bike fast (downhill).

1. Switching off the suspension:
   Press lever A until it locks in place.
2. Switching on the suspension:
   Press lever B until lever A jumps back to the starting position.

NOTE:
Depending on the fork manufacturer, operation of the lever for turning off the lever may deviate from the above description.

If your suspension fork has a different type of handlebar lever or a lever directly on the fork itself for blocking the suspension, please refer to the enclosed user information for how to operate it or ask your specialist dealer. He or she will be pleased to advise you.

8.2.2 Forks without air suspension

1. Please refer to the operating instructions of your suspension fork of the accompanying user information. If you have any questions, please contact your specialist bicycle dealer. He or she will be pleased to advise you.

8.3 Adjusting the rear wheel suspension

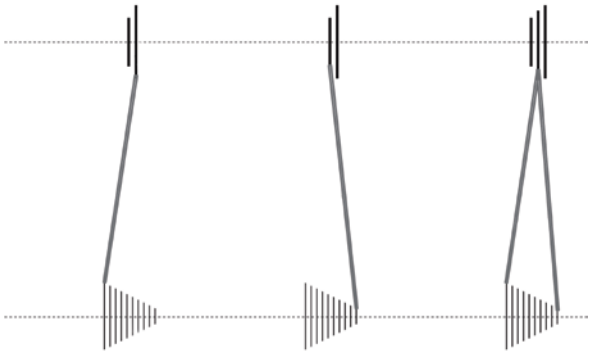
1. Please refer to the operating instructions of your suspension/cushioning element for your rear wheel suspension of the accompanying user information. If you have any questions, please contact your specialist bicycle dealer. He or she will be pleased to advise you.
2. Adjust your spring/damper element so that the bike drops equally at the front and rear wheel when loaded with the rider's weight.

8.4 Operating the gear shift

8.4.1 Derailleur

NOTE:
Riding with unfavourable chain positions will result in increased wear and tear and more noise.

- Avoid chain positions shown in the following illustration.-



Avoid:

- largest chainring + largest three sprockets
- middle chainring + largest sprocket
- middle chainring + smallest sprocket
- largest chainring + smallest three sprockets

NOTE:
Incorrect operation of the gear shift levers can damage your drive components.

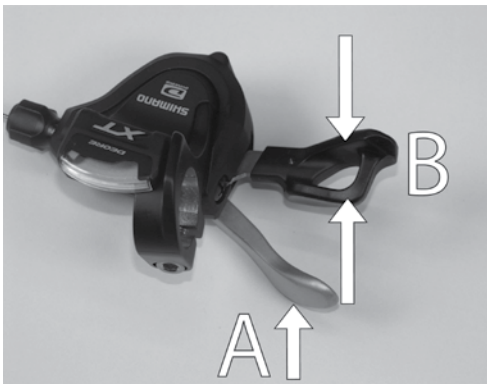
- *Never operate both shift levers or both switches at the same time!*
- *Do not operate the gear switches while you are pedalling with great force. Reduce your pedalling power while changing gear.*

8.4.1.1 Switching to a larger chainring/sprocket

The gear change for your bike can be found in the table in *section 4.4.3, Gear change.*

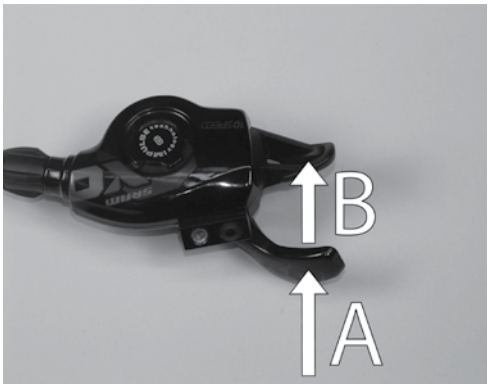
8.4.1.1.1 Shimano gear lever for MTB

1. Pedal in the direction of the drive.
2. Press gear lever A past the first click position until an audible click is heard and then release it again.
3. To skip several gears, keep pressing the lever. The number of clicks corresponds to the number of further connected gears.



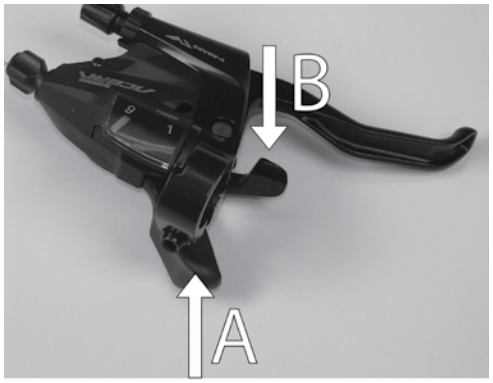
8.4.1.1.2 Sram gear lever for MTB

1. Pedal in the direction of the drive.
2. Press gear lever A past the first click position until an audible click is heard and then release it again.
3. To skip several gears, keep pressing the lever. The number of clicks corresponds to the number of further connected gears.



8.4.1.1.3 Shimano brake/gear lever combination for MTB

1. Pedal in the direction of the drive.
2. Press gear lever A past the first click position until an audible click is heard and then release it again.
3. To skip several gears, keep pressing the lever. The number of clicks corresponds to the number of further connected gears.



8.4.1.1.4 Shimano brake/gear lever combination for racing bike

1. Pedal in the direction of the drive.
2. Press gear lever A past the first click position until an audible click is heard and then release it again.
3. To skip several gears, keep pressing the lever. The number of clicks corresponds to the number of further connected gears.

8.4.1.1.5 Shimano brake/gear lever combination for Di2 electric switching for racing bike

1. Pedal in the direction of the drive.
2. Press switch A once. The next gear is engaged.
3. To skip several gears, press switch A repeatedly.

8.4.1.1.6 Sram brake/gear lever combination for racing bike

1. Pedal in the direction of the drive.
2. Press gear lever A firmly past the first click position until an audible click is heard and then release it again.
3. To skip several gears, keep pressing the lever. The number of clicks corresponds to the number of further connected gears.

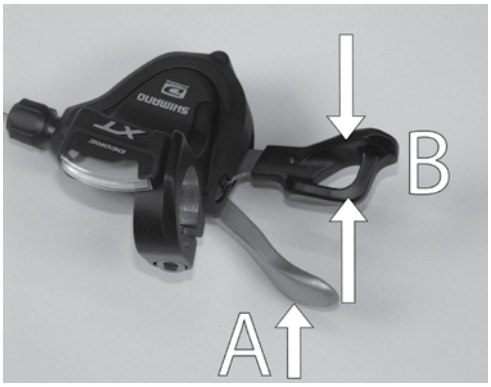
8.4.1.1.7 Shimano twist grip gear change for MTB

1. Pedal in the direction of the drive.
2. Seen from the right-hand side, rotate the gear switch handle in an anticlockwise direction until you hear a clear click.
3. To skip several gears, keep turning the gear switch handle accordingly.

8.4.1.2 Switching to a smaller chainring/sprocket:

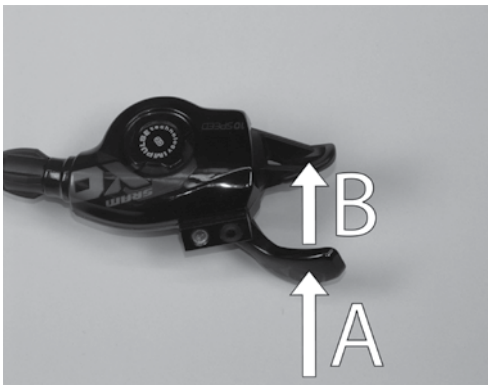
8.4.1.2.1 Shimano gear lever for MTB

1. Pedal in the direction of the drive.
2. Operate lever B until you feel an engagement and then release the lever again immediately.



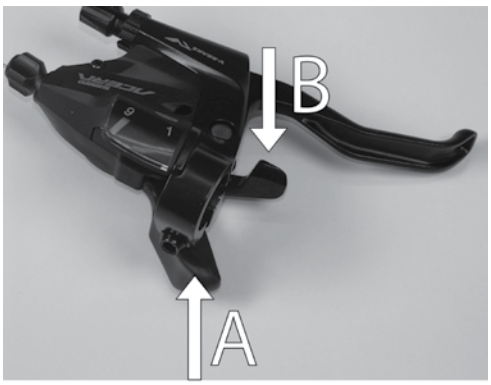
8.4.1.2.2 Sram gear lever for MTB

- Pedal in the direction of the drive.
- Operate lever B until you feel an engagement and then release the lever again immediately.



8.4.1.2.3 Shimano brake/gear lever combination for MTB

1. Pedal in the direction of the drive.
2. Operate lever B until you feel an engagement and then release the lever again immediately.



8.4.1.2.4 Shimano brake/gear lever combination for racing bike

1. Pedal in the direction of the drive.
2. Operate lever B until you feel an engagement and then release the lever again immediately.

8.4.1.2.5 Shimano brake/gear lever combination for Di2 electric switching for racing bike

1. Pedal in the direction of the drive.
2. Press switch B and then release it again immediately.

8.4.1.2.6 Sram brake/gear lever combination for racing bike

1. Pedal in the direction of the drive.
2. Operate lever A gently until you feel an engagement and then release the lever again immediately.

8.4.1.2.7 Shimano twist grip gear change for MTB

1. Pedal in the direction of the drive.
2. Seen from the right-hand side, rotate the gear switch handle in a clockwise direction until you hear a clear click.

3. To skip several gears, keep turning the gear switch handle accordingly.

8.4.2 Hub gear

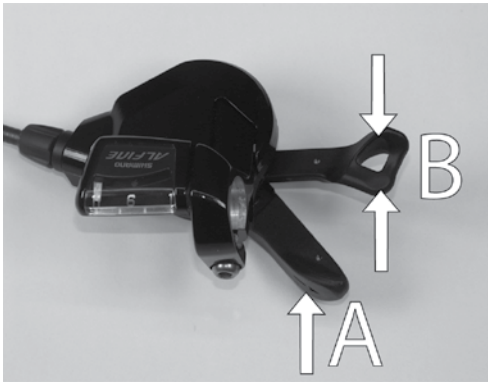
Our bikes with hub gears are available with 8 and 11 gears. Operation is the same in both versions.

8.4.2.1 Switching to a lower gear

NOTE:
Here, a lower gear means a lower gear ratio. This makes it easier to climb gradients.

8.4.2.1.1 Shimano Alfine

1. While riding: Reduce your pedalling power.
2. Press gear lever A past the first click position until an audible click is heard and then release it again.
3. To skip several gears, keep pressing the lever. The number of clicks corresponds to the number of further connected gears.
4. You can also operate the gearshift while standing still.

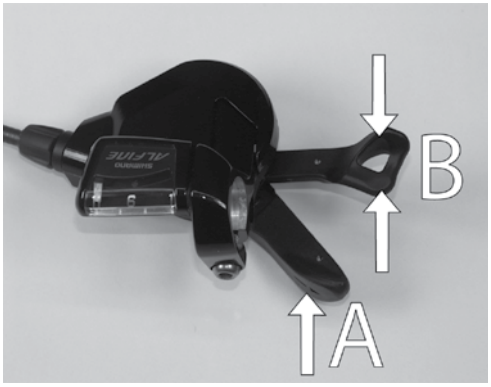


8.4.2.2 Switching to a higher gear

NOTE:
Here, a higher gear means a greater gear ratio. This allows you to ride faster, but you need greater pedalling power.

8.4.2.2.1 Shimano Alfine

1. While riding: Reduce your pedalling power.
2. Operate lever B until you feel an engagement and then release the lever again immediately.
3. You can also operate the gearshift while standing still.



8.5 Using the brakes

⚠ **WARNING Danger from falls and accidents**
If you operate the brakes too firmly this can lock the wheels and cause the bike to skid or roll over.

- Familiarise yourself with the use of the brakes. Begin by riding slowly and operating the brake lever gently.
- You should perform these braking exercises on level surfaces without any road traffic.
- Brake in a controlled manner and press both brake levers at the same time.
- The brakes of your bike are very powerful. If you pull the brake lever too strongly, it is possible that the wheels will lock.
- A blocking front wheel can cause a roll-over.
- A blocking rear wheel can make it impossible to control your bike.
- Disc brakes only reach their full breaking capacity after a “running in” phase.
- Please ride very defensively for as long as your braking system has not been run in.
- Run your disc brake in. The rule of thumb is: perform approximately 30 braking operations from a moderate speed (approx. 25 km/h) until you come to a standstill. As soon as the braking effect no longer increases with the same braking force, the running in procedure is completed.
- Avoid long downhill riding for as long as your braking system has not been run in.

NOTE:
Please also comply with the above points on running in disc brakes after the replacement of brake discs and/ or brake pads by your specialist dealer.

NOTE:
About 65% of the total braking power is provided by the front brake.
Maximum braking power is reached by simultaneously pressing both levers.

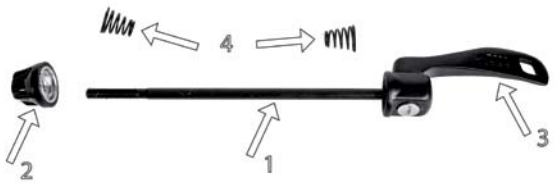
1.Pull the lever towards the handlebar to actuate the brake.

8.6 Operating the clamping systems for wheels and the saddle post

⚠ WARNING Danger from falls and accidents
WARNING Danger from falls and accidents. If the wheels and saddle post are not correctly mounted, these parts can become loose and as a result lead to dangerous riding situations, falls and accidents.

- **Comply with the following description.**
- **Practise the operation of the quick-release axle and/or thru axle several times and regularly.**
- **The opening and closing of screw-nut clampings on wheels may only be performed by a specialist workshop.**
- **If after installation you are not sure whether your front wheel and/or the saddle post have been correctly mounted, do not use your bike and consult your specialist bicycle dealer.**

8.6.1 Opening and closing the quick-release axle on the wheel



1 Axle
2 Nut
3 Lever
4 Spring

8.6.1.1 Opening the quick-release axle

1. Press the lever away from the hub.
2. Turn the screw nut in an anti-clockwise direction until the wheel can be pulled out of the frame or front forks without great effort.

NOTE:
Make sure that you do not lose the springs.

8.6.1.2 Closing the quick-release axle

1. If the quick-release axle has been completely removed from the hub, push it through the hub from the left-hand side (as seen in the riding direction) with the spring attached.
2. Place the second spring and screw nut on to the quick-release axle.
3. Turn the nut in a clockwise direction on to the right-hand end of the quick-release axle, which is protruding out of the hub.
4. Tilt the eccentrically pivoted lever so that it forms roughly the extension of the hub axle. Hold the lever in this position.
5. Now turn the screw nut until the eccentrically pivoted lever when turned through 90° about its pivot can only move against a resistance (it then forms more or less the straight extension of the hub axle).
6. Now press the lever by a further 90° up to its end position.

7. Testing the adjustment of the quick-release lever:

- If the quick-release lever does not close tightly enough:

  ⚠ **WARNING Danger from falls and accidents**
  If the lever cannot move in its final position (90° to the hub axle) because the pre-tension is too great, it is possible that the lever will become loose of its own accord while you are riding the bike, so that the front wheel also becomes loose. This can lead to dangerous riding situations, falls and accidents.

  – Open the quick-release lever.
  – Tighten the nut slightly in a clockwise direction.
  – Close the quick-release lever.

- If the quick-release lever closes too tightly:

  ⚠ **WARNING Danger from falls and accidents**
  If the lever cannot move in its final position (90° to the hub axle) because the pre-tension is too great, it is possible that the lever will become loose of its own accord while you are riding the bike, so that the front wheel also becomes loose. This can lead to dangerous riding situations, falls and accidents.

– Open the quick-release lever.
– Loosen the nut slightly in an anticlockwise direction.
– Close the quick-release lever.

8. Check the tightness of the wheels as described in *section 7.1.1, Checking the position and tight fit*.

8.6.2 Opening and closing the thru axle on the wheel

1. Axle
2. Thread
3. Lever

8.6.2.1 Opening the thru axle

1. Press the eccentrically pivoted lever away from the hub. The lever with the axle can now rotate.
2. Turn the lever with axle in an anti-clockwise direction until the axle is completely released from the opposite thread in the dropout.
3. Remove the axle from the hub. The wheel is now free.

8.6.2.2 Closing the thru axle

1. Push the thru axle from the left-hand side through the dropout and the hub.
2. Rotate the axle with the lever open in a clockwise direction into the opposite thread of the dropout.
3. When the axle can no longer be turned, rotate it backwards by about one turn and close the lever in its final position.
4. Testing the adjustment of the lever:

- If the lever does not close tightly enough:
  ⚠ **WARNING Danger from falls and accidents**
  If the lever is too loose when closed, the front wheel may become loose and move its position. This can lead to dangerous riding situations, falls and accidents.
  - Open the lever.
  - Turn the entire axle with lever a little further in a clockwise direction.
  - Close the lever again.

- If the lever closes too tightly:
  ⚠ **WARNING Danger from falls and accidents**
  If the lever cannot move in its final position (90° to the hub axle) because the pre-tension is too great, it is possible that the lever will become loose of its own accord while you are riding the bike, so that the front wheel also becomes loose. This can lead to dangerous riding situations, falls and accidents.
  - Open the lever.
  - Turn the entire axle with lever a little further in an anticlockwise direction.
  - Close the quick-release lever again.

5. Check the tightness of the wheels as described in *section 7.1.1, Checking the position and tight fit*.

8.6.3 Opening and closing the quick-release axle on the saddle post clamping

1. Axle
2. Knurled nut
3. Lever

8.6.3.1 Opening the quick-release axle on the saddle post clamping

1. Open the lever.

2. If the saddle post cannot be moved in this position, turn the knurled nut a little in an anticlockwise direction (as viewed from the left side).

8.6.3.2 Closing the quick-release axle on the saddle post clamping

NOTE:
Connect the saddle post clamping only if the saddle post is located in the saddle tube. Closing without an inserted saddle post may cause irreparable damage to the frame.

1. Check the tightness of the clamp. The clamp must sit flush on the saddle tube.

2. Close the quick-release lever.

3. Carry out a check of the saddle post clamping in accordance with section 7.2, Inspecting the saddle and saddle post.

If the lever does not close tightly enough:

⚠ **WARNING Danger from falls and accidents**
If the lever is too loose when closed, the saddle post may suddenly slip down a long way while the bike is being ridden. This can lead to dangerous riding situations, falls and accidents.

– Open the lever.

– Turn the knurled nut slightly in a clockwise direction (as seen from the left).

– Close the lever again.

If the lever closes too tightly:

⚠ **WARNING Danger from falls and accidents**
If the lever cannot move in its final position (90° to the hub axle) because the pre-tension is too great (see illustration), the lever may become loose while the bike is being ridden and the saddle post may suddenly slip down a long way. This can lead to dangerous riding situations, falls and accidents.

– Open the lever.

– Turn the knurled nut back slightly in an anticlockwise direction (as seen from the left).

– Close the quick-release lever again.

8.6.4 Screw-nut clamping on wheels

⚠ **WARNING Danger from falls and accidents**
Incorrect installation of the wheels using the quick-release hub axle can lead to dangerous riding situations, falls, accidents and material damage.

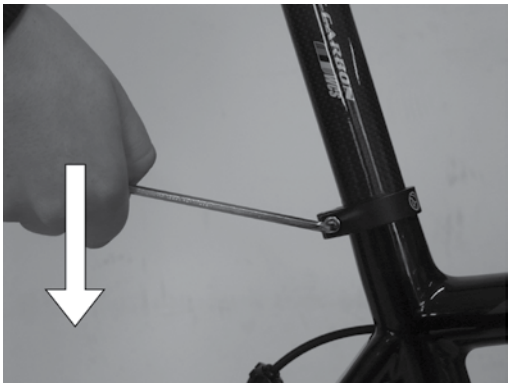
- **You should have wheels with a screw-nut clamping only opened and closed by a specialist workshop.**

8.6.5 Opening and closing the screw-nut clamping on saddle posts

You need an Allen key and a torque spanner with a hexagonal socket of size 4 and 5 mm.

8.6.5.1 Opening the screw-nut clamping on the saddle post

1. Loosen the clamping bolt(s) by a few turns until the saddle post can be easily moved.



8.6.5.2 Closing the screw-nut clamping on the saddle post

NOTE:
Connect the saddle post clamping only if the saddle post is located in the saddle tube.
Closing without an inserted saddle post may cause irreparable damage to the frame.

1. Check the tightness of the clamp. The clamp must sit flush on the saddle tube.

2. Retighten the clamping bolt/s with the torque spanner. Prescribed tightening torque: 5-8 Nm for aluminium frames or 5-6 Nm for carbon frames

⚠ WARNING Risk of falls and accidents
If the tightening torque is too high, this may damage your saddle post. This may then break while you are riding the bike and result in a serious accident.

- **It is essential to use a torque wrench when tightening the clamp bolt(s) and comply with the specified tightening torque.**
- **For saddle post clamps with a knurled nut and quick-release lever you should ask your dealer to show you how tight these may be tightened.**

9. Loading the Bike

⚠ WARNING Danger from falls and accidents
Adding an extra load impairs the riding behaviour of your bike and the braking distance becomes longer. And if you overload your bike, it is possible that parts of it might even break or fail. All of this can lead to dangerous riding situations, falls and accidents.

- **You should load your bike in such a way that you always have enough room to move and can always operate your bike safely when it is loaded.**

- **Adapt your riding to the more difficult riding behaviour of the bike.**
- **Do not use your bike for transporting goods, but only as an item of sports equipment and for moving from one location to another.**
- **Never use your bike with a bicycle trailer.**
- **Do not transport any bulky luggage or other adults on a luggage rack (optional).**
- **Children should only be transported in child seats. Install child safety seats only on luggage racks which are suitable for this purpose.**
- **Please contact your specialist bicycle dealer concerning the selection and mounting of a child seat. He or she will be pleased to advise you. Please refer to the following instructions.**
- **Transport your luggage only on suitable carrier systems.**
- **Use only carrier systems that are allowed for your bike, *see section 2.3.2, What must you bear in mind when retrofitting accessories and carrying out conversions?***

Please contact your specialist bicycle dealer to retrofit a carrier system. He or she will be pleased to advise you.

- **Do not exceed the maximum permitted loading weight for your loading system. Please see the documentation for your loading system for the maximum permitted loading weight.**
- **The maximum permitted load weight for standard mounted bicycle racks on GHOST bikes is indicated on the rack itself.**
- **Do not exceed the maximum permitted total weight for your bike (bike, rider plus children and luggage).**
- **Load your bike in such a way that the luggage and carrier system never come into contact with the wheels, drive, chain or brakes.**
- **Load your bike in such a way that the luggage and carrier system never cover the lights or reflectors of your bike.**

ATTENTION:
You may mount a luggage rack to the following models:

SONA, KATO, TACANA (not FS, not PRO)
LAWU LANAO, LANAO PRO (not FS)
KATO EBS
POWERKID 24”
PANAMAO X, C
PANAMAO
SPEEDLINE

The luggage rack may be installed only on the prepared attachment elements on the frame.

How to determine the maximum permitted weight:

1. If you would like to transport a child on your bike: Weigh the child on a calibrated set of scales.
2. Weigh yourself wearing all of your cycling clothes, helmet and bike on a calibrated set of scales. If you wish to use a bicycle rucksack while you are riding, stand on the scales with the loaded rucksack.
3. Weigh the luggage that you would like to transport on your luggage rack on a set of calibrated scales.
4. Adds together all of the weights. The sum total must not be more than the maximum permitted total weight according to the table in *section 3.1, Permitted temperatures and permitted total weight.*
5. Reduce your luggage accordingly if the sum total is more than the maximum permitted total weight according to the table in *section 3.1, Permitted temperatures and permitted total weight.*
6. Securing a child: please secure your child as shown in the documentation for your child seat. If you have any questions, please contact your specialist bicycle dealer. He or she will be pleased to advise you.

Loading the luggage rack (optional):

7. Place your luggage on the middle of your luggage rack.
8. If you use saddlebags, install and load them according to the documentation for your bags. If you have any questions, please contact your specialist bicycle dealer. He or she will be pleased to advise you.
9. Attach your luggage with suitable and stable holding systems (spring clamp, click system, tensioning straps, elastic belt straps or similar items).
10. Shake your bike vigourously after you have loaded it. The luggage and carrying system must be firmly attached and not become loose. If the luggage or carrier system are not firmly attached or become loose: fix the luggage or carrier system in place until it is firmly attached.

10. Riding the Bike

⚠ WARNING Danger from falls and accidents
Your riding safety depends on your speed. The higher your speed, the greater your risk!

- **You should only use this bike if you can safely ride at high speeds and can also brake safely from such speeds.**
- **Always adapt your speed to your riding skills and the riding conditions.**
- **Always wear a helmet when riding your bike.**
- **Ride with foresight and defensively.**
- **Be ready to brake at all times.**
- **Do not ride after consuming alcohol.**
- **Ride in such a way that you have your bike under control at all times and can react correctly in the event of a sudden danger situation.**
- **When wet, the brakes may not be as effective. The braking distance becomes longer.**
- **When riding, wear only suitable clothing that does not hinder the operation of the bike or your sight.**
- **Always wear tight-fitting legwear when riding. Loose clothing can become tangled in the bike and lead to serious falls.**
- **In the dark and with poor visibility, wear clothing with reflective stripes and switch on your lights.**
- **Note that some items of clothing and/or the use of a backpack can hinder your mobility.**
- **If using your bike for sports (e.g. in a sports park, for downhill racing), you should wear appropriate protective equipment.**

You may only use your bike in the usual way:

1. Sit with your buttocks on the saddle.
2. Hold the left-hand grip of the handlebars with your left hand and the right-hand grip with your right hand.
3. When riding, place your left foot on the left pedal and your right foot on the right pedal.
4. When accelerating or riding uphill, you may ride while standing on the pedals.

   ⚠ WARNING Danger from falls and accidents
   While you are standing on the pedals, if your foot slips from the pedal this may cause a severe fall. You should only use this riding technique
   - **if you have mastered it,**
   - **if you use a shoe-pedal combination with which you cannot slip off the pedal if you use the correct pedalling technique. Please contact your specialist dealer on this. He or she will be pleased to advise you.**

⚠ WARNING Danger from body parts being drawn in and shearing forces
Rotating wheels can injure hands and other parts of the body.

- **Keep your hands and other parts of the body away from rotating wheels and brake discs!**
- **Please ensure that your child's hands and other parts of their body cannot come into contact with the revolving wheels or brake discs.**

⚠ CAUTION Danger of burns
When riding - especially in the case of lengthy downhill rides and frequent braking - rims and brake discs can become so hot that you may burn your skin.

- **Do not touch the rims or brake discs immediately after riding your bike.**
- **Allow the rims and brake discs to cool down for at least 10 minutes before touching them.**
- **In order to check the temperature, lightly tap with your bare finger very briefly on the braking surface of the rim and brake disc. If after the above period it still feels hot, wait a few minutes and repeat the test until the braking surface has completely cooled down.**

NOTE:
There are a wide range of offers available for cycle training.
Training to ride a bike can help you increase your riding safety and improve your riding technique. Ask your specialist bicycle dealer about offers near you.

11. What to do in the case of a fall or accident

11.1 Basics

⚠ WARNING Danger from falls and accidents
Bicycle parts that are important for safety may be damaged as a result of a fall, accident or external forces. This can lead to dangerous riding situations, falls, accidents and material damage.

- **Please do not operate your bicycle after a fall, an accident or impacts of external forces.**
- **Contact your specialist bicycle dealer immediately after an accident or fall.**
- **You should only use your bike again when it has been properly repaired by the specialist bicycle dealer.**

The following bicycle parts must always be replaced after an impact on a hard surface:

- Handlebars
- Handlebar stem
- Crank
- Carbon saddle post
- Saddle with carbon frame

All other bicycle parts must be inspected by your dealer and replaced, if necessary.

NOTE:
If you have any questions after falls and accidents, you can also contact a bicycle specialist. In Germany you can obtain corresponding contact addresses from your local Chamber of Commerce and Industry (IHK).

11.2 Carbon frame

⚠ WARNING Danger from falls and accidents
A frame made of carbon may suffer damage which is not visible as a result of a fall, accident or external forces. This can lead to dangerous riding situations, falls, accidents and material damage.

- **Have your frame checked by a specialist retailer authorised by GHOST.**
- **In the case of uncertainties or ambiguities, have your frame sent to GHOST for a check.**

NOTE:
If you have any questions after falls and accidents, you can also contact a bicycle specialist. In Germany you can obtain corresponding contact addresses from your local Chamber of Commerce and Industry (IHK).

12. Parking the Bike safely

⚠ WARNING Risk of injury from your bike falling over
A bike that is supported by its kickstand or leaning against a house wall or garden fence, for example, can fall over when subjected to a small force. This may cause injury to individuals or animals and damage other objects.

- **You should only park your bike where it does not represent an obstacle or nuisance to other people or will not damage other objects.**
- **Keep children and animals away from your parked bike.**
- **Please do not park your bike next to items which are easily damaged, such as cars and similar items.**

12.1 Bikes with side stands

The following GHOST bikes are equipped with a kickstand as standard:

- PANAMAO

How to park your bike safely:

1. Stop your bike on a flat and firm surface.
2. With the bike stationary, use your right foot to fold the kickstand down until it clearly locks in place.
3. Turn the handlebars so that they point slightly to the left.
4. Lean your bike carefully on its left side until it is in a stable position.
5. Check the stability of your bike:
   - Hold your bike lightly with one hand by the handlebars or saddle.

- Push the saddle of the bike lightly with the other hand in all directions. Look for another place to park your bike if it could easily fall over.

12.2 Bikes without side stands

1. Stop your bike on a flat and firm surface.
2. Dismount on the left.
3. Lean your bike with the back wheel or with the saddle against a firm object.
4. Turn the handlebars to the side to which you have tilted your bike.

NOTE:
If there is no suitable object available, you can also carefully place your bike on the ground on its left-hand side. You should avoid putting the bike on the ground on its right-hand side in order to avoid damaging or adjusting parts of the switching mechanism.

13. Transporting the Bike

⚠ **WARNING Danger from falls and accidents**
The use of bicycle racks can damage bicycle parts which are relevant to safety. The failure of these parts can lead to dangerous riding situations, falls, accidents and material damage.

- **Transport this bike only inside other vehicles. Secure the bike to prevent slipping, e.g. through the use of tension belts.**
- **Protect your bike, e.g. by covering it against damage from sharp edges and other objects.**

- **No other items may be placed on the bike during transport.**
- **The bike must not be clamped into car transport systems (roof racks, rear or interior carrying devices etc.).**
- **Front and rear wheel and the saddle post with saddle may be removed for transport if they are fitted with quick-release axles. Remove these parts only if you are sure that you can install them again correctly. See also *section 8.6, Operating the clamping systems for wheels and the saddle post.***

For transport in car interiors you can remove the wheels of your bike if they are mounted with a quick-release or thru axle, as well as the saddle post.

NOTE:
If your bike is transported inside the motor vehicle, exposure to direct sunlight may cause the tyres to burst or come off the wheel rim.

Let the air out of the tyres before transport and inflate them again after transport (see section 15.5.1, Changing the inner tube and tyre).

13.1 Dismantling and installing wheels

For transport in car interiors you can remove the wheels of your bike if they are mounted with a quick-release or thru axle.

⚠ WARNING Danger from falls and accidents
Incorrectly installed wheels can lead to dangerous riding situations, falls and accidents. Check that the wheel is correctly mounted before you use your bike again.

- **Check that the front wheel is positioned in the centre of the front wheel fork.**
- **Shake both wheels strongly at right angles to the direction of travel.**
  - **The wheels must not move in their mounting.**
  - **No cracking or grinding noises should be heard.**
- **Check whether the quick release lever or thru axle is correctly closed, see *section 8.6, Operating the clamping systems for wheels and the saddle post.***
- **After installation, carry out a check in accordance with *section 7.8, Inspecting the brakes*.**

⚠ WARNING Danger of burns
After long downhill rides it is possible that bicycle rims and brake discs will become very hot.
- **Immediately after a downhill ride you should not touch the rims or brake discs.**
- **Allow the rims and brake discs to cool down for at least 10 minutes before you touch them.**
- **In order to check the temperature, lightly tap with your bare finger very briefly on the braking surface of the rim and brake disc. If after the above period it still feels hot, wait a few minutes and repeat the test until the braking surface has completely cooled down.**

⚠ WARNING Danger from body parts being drawn in and shearing forces
Rotating wheels can injure hands and other parts of the body.
- **Press the corresponding brake before starting work on the wheel. It must no longer be possible to turn the wheel.**

⚠ WARNING Risk of brake failure for rim brakes
The brake blocks may be twisted by coming into contact with the tyres during removal and installation.

- **After installation of the wheels, make sure that the brake blocks are in the correct position *(see section 7.8.4, Checking the rim brake with cable (MTB version) and 7.8.5, Checking the rim brake with cable (racing bike version)).***

- **If they are not in the correct position, contact an approved workshop immediately.**

NOTE:
If your bike has disc brakes, please use the enclosed transport locking devices provided for transport after removal of the wheel. Only remove these immediately before installing the wheels again.

- Hydraulically-operated brakes should not be operated under any circumstances if the wheels are removed. The brake pistons might be pushed too far out.

Please proceed in the following order:

1. Dismantle the front wheel
2. Dismantle the rear wheel
3. Install the rear wheel
4. Install the front wheel
5. Check the tightness of the wheels as described in *section 7.1.1, Checking the position and tight fit*.
6. Check the function and installation of the breaks in accordance with *section 7.8, Inspecting the brakes.*

In many cases it is sufficient to remove only the front wheel for transport. In this case you do not have to comply with the instructions for installing and removing the rear wheel.

13.1.1 Dismantling the front wheel

1. If your bike has a hub dynamo *(see table in section 4.1, Types, categories, ranges)* or has been retrofitted with a hub dynamo: release the plug connection between the dynamo and cabling.
2. Open your rim brake in accordance with *section 13.1.5, Opening and closing the brakes.*
3. Open the lever of your quick-release or thru axle according to *section 8.6.1.1, Opening the quick-release axle or 8.6.2.1, Opening the thru axle.*
4. Pick up your bike with the handlebars and pull the front wheel out of the fork ends of the front-wheel fork.
5. If your bike has a disc brake, insert the enclosed transport lock into the brake pistons.
6. Place your bike carefully on the ground with the fork ends.

13.1.2 Installing the front wheel

1. If your bike has a disc brake, remove the transport lock from the brake pistons.
2. Pick up the bike with the handlebars.
3. Position the hub of the front wheel under the fork ends of the front-wheel fork.
4. With disc brake: Insert the wheel so that the brake disc slides smoothly between the brake pads.
5. Lower the fork carefully until the axle is flush with the stop of the fork ends on the left and right.
6. Close your quick-release or thru axle according to *section 8.6.1.2, Closing the quick-release axle or 8.6.2.2, Closing the thru axle.*
7. If your front wheel has a hub dynamo, connect the plug-in contact between the hub dynamo and cables.
8. Press the front wheel brake several times with the bike standing still.
9. Lift up the bike by the handlebars and turn the front wheel by hand. If a brake pad is in contact with the brake disc or a brake block with the wheel rim, this can indicate incorrect mounting of the hub in the fork dropouts. In this case, apply the brakes to the front wheel, open the quick-release or thru axle and shake the front wheel back and forth lightly (sideways to the direction of travel). Repeat the installation from point 6. If there is no improvement, please contact your specialist bicycle dealer immediately.
10. If your bike has a hub dynamo, check that the lights are working correctly.
    (See *section 7.10, Inspecting the lighting system.)*

13.1.3 Dismantling the rear wheel

1. On the rear wheel, switch to the smallest sprocket of the sprocket assembly (see *section 8.4.1.2, Switching to a smaller chainring/sprocket)*.

2. Operate the rear brake until the rear wheel comes to a complete stop.
3. Open the lever of your quick-release or thru axle according to *section 8.6.1.1, Opening the quick-release axle or 8.6.2.1, Opening the thru axle.*
4. Open your rim brake in accordance with *section 13.1.5, Opening and closing the brakes.*
5. Raise the bike at the rear end and push the gear shift mechanism to the rear. In this position, push the rear wheel with alight pressure towards the opening in the frame.

6. If your bike has a disc brake, insert the enclosed transport lock between the brake pistons.
7. After removing the wheels, lay the bike carefully on its left side.

13.1.4 Installing the rear wheel

1. If your bike has a disc brake, remove the transport lock from the brake pistons.
2. Raise the bike at the rear.
3. Place the rear wheel under the frame so that the chain fits over the smallest pinion.
4. Lower the rear end carefully until the axle is on the stop of the open ends of the frame on left and right.
5. With disc brake: Insert the wheel so that the brake disc slides smoothly between the brake pads
6. Close your quick-release or thru axle according to *section 8.6.1.2, Closing the quick-release axle or 8.6.2.2, Closing the thru axle.*
7. Press the rear wheel brake several times with the bike standing still.
8. Lift up the bike by the rear and turn the front wheel by hand. If a brake pad is in contact with the brake disc or a brake block with the wheel rim, this can indicate incorrect mounting of the hub in the fork drop-outs. In this case, apply the brakes to the rear wheel, open the quick-release or thru axle and shake the rear wheel back and forth lightly (sideways to the direction of travel). Repeat the installation from point 6. If there is no improvement, please contact your specialist bicycle dealer immediately.

13.1.5 Opening and closing the brakes

⚠ **DANGER Risk from brake failure**
In order to remove and install your wheels, you have to open the rim brakes and close them again after installation. If you do not close the rim brake again after installation, your brake will not work. This means that serious falls and accidents are very likely.

- **Close the brake after installing the wheel.**

You can find the type of brake that your bike has in *section 4.3.2, Brake type.*

NOTE:
Disc brakes cannot be opened.

13.1.5.1 Opening the Magura HS 33 hydraulic rim brake

1. Fold over the mounting lever and pull the brake off the brake holder.
2. Ensure that any loose spacer washers are not lost.

13.1.5.2 Closing the Magura HS 33 hydraulic rim brake

1. Install any spacer washers on to the brake holders with the arrows pointing upwards.
2. Place the brake on the brake holder.
3. Close the clamping lever.

13.1.5.3 Opening the MTB and Trekking (V-Brake) rim brake

1. Press the brake shoes together with one hand and pull the cable guide out of the bracket with the other hand.

13.1.5.4 Closing the MTB and Trekking (V-Brake) rim brake

1. Use one hand to press the brake shoes together.
2. Hook the cable guide into the bracket with the other hand.

13.1.5.5 Opening the rim brake of the racing bike

1. Rotate the lever upwards as far as it will go.

13.1.5.6 Closing the rim brake of the racing bike

1. Rotate the lever downwards as far as it will go.

13.2 Dismantling and installing saddle post with saddle

⚠ WARNING Danger from falls and accidents
An incorrectly mounted saddle post can suddenly slip down a long way or out of the saddle tube. This can lead to dangerous riding situations, falls and accidents.

- **You should only carry out this work if you have the required tools and the necessary technical skills.**

13.2.1 Dismantling the saddle post

1. Open the saddle post clamping according to *sections 8.6.3.1, Opening the quick-release axle on the saddle post clamping and 8.6.5.1, Opening the screw-nut clamping on the saddle post.*
2. Pull the saddle post with saddle out of the saddle tube.

NOTE:
Do not operate the saddle post clamping when it has been dismantled. Otherwise, the frame may be damaged.

Depending on the frame and saddle post material, there is grease or carbon assembly paste on the saddle post, which might soil your vehicle interior or other items. You can avoid contact with this by wrapping the saddle post in a cloth or plastic bag, for example.

13.2.2 Installing the saddle post

1. Please refer to the table in *section 4.6.1, Breakdown* to find out what material your frame is made of.
2. If your saddle post and frame are made of aluminium, you should grease the insertion section of the saddle post.

   NOTE:
   After removal, there is usually so much grease still present from the factory that it is not necessary to grease it again.
3. If the saddle post and/or frame are made of carbon, coat the insertion section with the assembly paste supplied for carbon parts.

   NOTE:
   After removal, there is usually so much assembly paste still present from the factory that it is not necessary to coat it again.
   Do not use grease under any circumstances!
4. Return the saddle and saddle post back to the desired position with the correct insertion depth: The “STOP” or “MAX” marking must be located in the invisible section of the saddle tube.
5. Close the saddle post clamping according to *section 8.6.3.2, Closing the quick-release axle on the saddle post clamping and 8.6.5.2, Closing the screw-nut clamping on the saddle post.*

NOTE:
Mark the correct position of the saddle post for your height with a piece of adhesive tape. In this way you can quickly find your sitting position again.

14. Maintaining the Bike

⚠ **WARNING Danger from falls and accidents**
Failing to care for and service your bike properly may endanger its safety and lead to dangerous riding situations, accidents and falls.

- **Look after your bike.**
- **Keep to the specified servicing schedule.**

14.1 Your servicing and maintenance plan

Work	Interval
Cleaning the bike *See section 14.2, How to clean and care for your bike.*	whenever you have ridden the bike on muddy or dirty surfaces • every 200 km at the latest
Adjusting the air pressure of the suspension fork *See section 8.2.1.1, Adjusting the air pressure*	every 500 km or every 3 months after every change to the total weight of more than 10 kg
Cleaning and greasing the chain *See section 14.2, How to clean and care for your bike, point 6*	• after every ride in the wet • whenever you have cleaned your bike with water • after every prolonged ride on a sandy surface • every 200 km at the latest

14.2 How to clean and care for your bike

⚠ **WARNING Danger from falls and accidents**
Corrosion - which can also affect non-rusting parts - may damage the safety components of your bike so severely that they break when you are riding it. This may result in serious falls.

Corrosion can result, amongst other things,
from salt, e.g. salty air near the coast or the spreading of salt on the roads in the winter
or a corrosive atmosphere, e.g. on industrial sites and through sweat.

- **Protect your bike with spray wax or a similar preserving agent against all contacts with corrosive substances.**
- **Clean your bike after all contacts with corrosive substances and protect it again in accordance with the following description.**
- **Do not use any steam jet/high-pressure cleaner for wet cleaning. The strong water jet can damage your bike.**

NOTE:
Good care and maintenance increases the service life of your bike and its components.
Clean and service your bike at regular intervals.

- Use a gentle water jet or a bucket of water and sponge to clean your bike.
- Use only clean fresh or desalinated water. Do not use any saltwater (e.g. seawater)

NOTE:
With many cleansers and moderate soiling it is often sufficient to spray on the cleanser and to rinse it off again after the prescribed waiting time.
Stubborn soiling can be loosened after the reaction time, e.g. with a radiator paintbrush or sponge, before rinsing off.

NOTE:
Cleansers, lubricants and corrosion inhibitors are chemical products. Some of these agents can damage your bike.

- Use only products that are expressly suitable for bikes.
- Ensure that this agent does not attack paintwork or rubber, plastic or metal parts etc. Contact your specialist bicycle dealer for further advice.
- Follow the manufacturers' instructions.

1. Remove coarse soiling such as earth, stones, sand, etc. using a gentle water spray.
2. Allow the bike to dry for a while.
3. Spray the complete bike with a suitable cleansing agent.
4. Use a water jet to rinse down the entire bike. You can also carry out additional wet cleaning with the help of a sponge or cloth.
5. Allow the bike to dry.
6. How to clean and grease the chain:
   - Rotate the crank slowly against the direction of the drive. The rear wheel must not revolve.
   - If your bike has a backpedal brake, ask another person to lift up the rear of the bike and turn the crank in the drive direction.
   - Pour a small amount of a suitable chain cleansing agent onto a clean, lint-free cotton cloth and wipe off the chain.
   - Repeat this procedure as often as necessary with a clean part of the cotton cloth until the chain is clean.
   - Allow the cleansing agent to evaporate for approximately 1 hour.
     NOTE:
     If there is still some cleansing agent between the links of the chain, the new grease is immediately decomposed and therefore has no effect.
   - Apply lubricant suitable for bike chains sparingly to the chain links.

   ⚠ WARNING Danger from falls and accidents
   If you use too much or unsuitable lubricant, this may drip on to the brake disc or rim and cause them to smear. This may cause the braking effect to deteriorate significantly.
   - **Remove any excess lubricant from the chain using a clean, dry and lint-free cotton cloth.**
   - **Clean the wheel rim and brake disc with a suitable degreasing agent. Consulting your specialist bicycle dealer.**

   NOTE:
   Lubricant for motorbike chains will clog your bike chain and drive components.
   Use only lubricants expressly approved for use on bike chains.
7. Clean any remaining heavily soiled parts by hand using a clean and lint-free cotton cloth and a suitable cleansing agent.
8. Spray the whole bike with a suitable spray wax or similar corrosion inhibitor.

⚠ WARNING Danger from falls and accidents
Spray wax or other preservatives on the brake discs or rims may reduce the braking effect. Other parts may become slippery and lead to dangerous riding situations, falls and accidents.

These parts must not be treated with preserving agents.

- Brake blocks
- Brake discs
- Grips, brake and gear levers
- Saddle
- Tyre

- **Clean the brake discs and rims with an appropriate degreasing agent if these have nevertheless come into contact with spray wax or another preserving agent.**

9. Polish your bike after the prescribed waiting time with a clean, lint-free cotton cloth.
10. Clean the brake discs by hand using a clean, dry, lint-free cotton cloth and a suitable degreasing agent.

14.3 Workshop service

⚠ WARNING Danger from falls and accidents
Servicing which is not/incorrectly carried out, as well as damage from falls or accidents which is not repaired, may lead to dangerous riding situations, falls and accidents.

- **Please adhere to the recommended inspection schedules and have your bicycle inspected at a bicycle repair shop approved for GHOST bikes. This is the only way to safely identify and repair worn parts and damage.**

Work	Interval
First inspection	after 500 km or 6 months at the latest
Inspection of the brake linings, brake discs, chain	every 500 km
Regular inspections	every 1000 km or once a year

⚠ WARNING Danger from falls and accidents
Some bicycle components, particularly lightweight components, may have a limited life span. After this time they may fail and lead to dangerous riding situations, falls and accidents. Please consult your dealer if you have any questions. He or she will be pleased to advise you.

15. Faults When Riding

⚠ WARNING
Danger from falls and accidents
Incorrectly performed troubleshooting can lead to dangerous riding situations, falls and accidents.

- **You should only carry out work to your bike which you are permitted to perform according to the following table.**
  Contact a specialist bicycle workshop if the work that you have carried out is not successful.
- **Have all other work carried out by a specialist bicycle workshop.**
- **You should contact your specialist bicycle dealer immediately if the riding behaviour of your bike does not appear to be normal, if you can hear unusual noises or if you notice any malfunctions which are not listed in the following table.**

15.1 Gear shift, drive

Malfunction	Possible cause(s)	Remedy
Gears do not change or do not change smoothly	Shift lever not actuated correctly	Actuate the lever again
	Shift mechanism maladjusted	Contact your specialist bicycle dealer.
	• In the case of steep inclinations, excessive pressure on the pedal • and/or pedalling movement too slow	Repeat the gear shifting procedure on flat terrain. Changing gear while stationary: • Lift the rear wheel. • Turn the crank in the drive direction until the desired gear is engaged.
Drive blocks during or after gear shifting	Chain jamming	Leave the bike where it is. Actuate the gear lever in the opposite direction. Lift the rear wheel; if the following is possible without the use of force: turn the crank against the drive direction. *NOTE:* *Under no circumstances should you apply force if the crank cannot be easily turned. Contact your specialist bicycle workshop immediately.*
Unusual noise such as cracking, loud grinding and/or banging	Drive/gearing components damaged	Contact your specialist bicycle dealer immediately.
Irregular resistance during the pedal movements	Drive/gearing components damaged	

Malfunction	Possible cause(s)	Remedy
Chain jumped off sprocket	• Incorrect operation of the gearshift • Maladjusted or damaged gear shift mechanism	• Leave the bike where it is. • Lift the chain onto the next sprocket by hand. • Lift the rear wheel, • if the following is possible without force: • turn the crank in the drive direction. *NOTE:* *Under no circumstances should you apply force if the crank cannot be turned easily or if you do not have the strength to lift the back wheel.* Contact your specialist bicycle dealer immediately.
Chain jumped off during or after gear shifting	• Incorrect operation of the gearshift • Maladjusted or damaged gear shift mechanism	• Leave the bike where it is. • Actuate the gear lever in the opposite direction. • Lift the chain onto the next sprocket by hand. • Lift the rear wheel, • if the following is possible without force: • turn the crank in the drive direction. *NOTE:* *Under no circumstances should you apply force if the crank cannot be easily turned.* Contact your specialist bicycle dealer immediately.
Chain jumps off repeatedly	• Repeated incorrect operation of the gearshift • Maladjusted or damaged gear shift mechanism	Operate the gearshift correctly, see *section 8.4, Operating the gear shift.* Contact your specialist workshop immediately if the fault occurs when you change gear correctly.

15.2 Brakes

⚠ WARNING Danger from falls and accidents
The brakes on your bike are among the most important components for your riding safety.
Failing brakes always lead to dangerous riding situations, falls and accidents.
A brake malfunction is a serious danger to safety.

- **Contact your specialist bicycle dealer immediately if you notice the slightest malfunction or a deterioration in the braking effect.**
- **You should only use your bike again when it has been properly repaired by the specialist bicycle dealer.**

Malfunction	Possible cause(s)	Remedy
Brakes do not work	Brakes not correctly installed	Contact your specialist bicycle dealer immediately.
	Brakes damaged	Contact your specialist bicycle dealer immediately.
Decreasing braking effect, brake levers can be pulled too far	Brake linings or brake blocks worn	Have the brake linings or brake blocks replaced immediately in an approved workshop.
	With hydraulic brakes: Brake system leaking	Contact your specialist bicycle dealer immediately.
The brake drags	Brake disc or rim damaged	Contact your specialist bicycle dealer immediately.
	Incorrect brake adjustment	
	The wheel is not straight	Front wheel: Install your front wheel correctly *(see section 13.1, Dismantling and installing wheels)*
		Rear wheel: Install your rear wheel correctly *(see section 13.1, Dismantling and installing wheels)*

15.3 Frame, saddle post and suspension

⚠ WARNING Danger from falls and accidents
Defects and faults in the frame and suspension can lead to dangerous riding situations, falls, accidents and material damage.

- **Contact your specialist bicycle dealer immediately if you notice the slightest malfunction.**
- **You should only use your bike again when it has been properly repaired by the specialist bicycle dealer.**

Problem	Possible causes	Remedy
Noises: Cracking, banging, grinding, etc.	Frame, saddle post and/or suspension damaged	Contact an approved workshop immediately.

Problem	Possible causes	Remedy
Saddle post slips into the frame or twists	Tightening torque too low	Check and increase the clamping force *See section 8.6.3, Opening and closing the quick-release axle on the saddle post clamping and 8.6.5, Opening and closing the screw-nut clamping on saddle posts.*
	if the frame or saddle post are made of carbon: Assembly with grease or without assembly paste for carbon parts	• Cleaning of saddle post and saddle tube with an appropriate detergent. See *section 14.2, How to clean and care for your bike.* • The saddle post and saddle tube must be free of grease. • For the removal and proper installation of the saddle post see *section 13.2, Dismantling and installing the saddle post with saddle.*
	Saddle post diameter is too small	Replacement of the saddle post in a specialist workshop.
Improper suspension function	Suspension not correctly adjusted	Adjust correctly according to the component user manual supplied with the bike.
	The suspension is blocked	Release the blockage *(see section 8.2.1.2, Switching the suspension on and off).*
Improper suspension function despite correct adjustment	Suspension damaged	Contact an approved workshop immediately.
The suspension fork cannot be locked	Actuation mechanism broken	Please contact your specialist bicycle dealer.

15.4 Mudguards, luggage rack, lights

⚠ WARNING Danger from falls and accidents
Defects and faults in the luggage rack and lights can lead to dangerous riding situations, falls, accidents and material damage.

- **Contact your specialist bicycle dealer immediately if you notice the slightest malfunction.**
- **You should only use your bike again when it has been properly repaired by the specialist bicycle dealer.**

Problem	Possible causes	Remedy
Noises: Cracking, banging, grinding, etc.	Mudguard or luggage rack parts loose	Contact an approved workshop immediately.
Lights partially or completely without function	Light fixtures (bulbs, LEDs) burned out	Replace the bulb(s) Please consult your dealer.
	Cables damaged	Contact an approved workshop immediately.
	Dynamo defective	

15.5 Wheels and tyres

⚠ WARNING
Danger from falls and accidents
Defects and faults in the wheels and tyres can lead to dangerous riding situations, falls, accidents and material damage.

- **Contact your specialist bicycle dealer immediately if you notice the slightest malfunction.**
- **You should only use your bicycle again when it has been properly repaired by the specialist bicycle dealer.**

Problem	Possible causes	Remedy
Wheels “jump”	• Tyre damaged • Spoke broken	Contact an approved workshop immediately.
	Damage to the wheel	Contact an approved workshop immediately.
“Spongy” riding behaviour	Tyre pressure too low	Increase the air pressure *(see section 7.1.2.7, Checking the air pressure).* If the same riding behaviour occurs again fairly shortly thereafter, the tyre has a slow puncture (see next line).
• Increasingly “spongy” riding behaviour • Very unusual wheel rolling behaviour (you feel every small stone)	Flat tyre	Flat tyre: replacement of the inner tube, if necessary tyre and rim tape, *see section 15.5.1, Changing the inner tube and tyre.*

15.5.1 Changing the inner tube and tyre

⚠ WARNING Danger from falls and accidents
Errors during the repair of the wheels can lead to dangerous riding behaviour.
You should carry out these repairs yourself only if you have the necessary tools and manual skills.

In order to repair a flat tyre you need the following equipment/tools:

- 2 tyre irons
- suitable inner tube (new) for your tyre size. Your tyre size and your type of valve can be found in *section 4.7, Tyres.*
- new tyres (new) tyres in your size, if necessary. Your tyre size can be found in *section 4.7, Tyres.*
- air pump with pump head suitable for the valve

1. Remove the wheel. *See section 13.1.1, Dismantling the front wheel and 13.1.3, Dismantling the rear wheel.*
2. Unscrew the valve nut as far as it will go.
3. Press the valve with your finger until all of the residual air has escaped.
4. Remove the nut from the valve base.
5. Lift the tyre off the rim using the tyre irons. Begin on the side opposite the valve.
6. Pull the inner tube out of the tyre. Note the direction of the inner tube in the tyre.
7. Look for the cause of the flat tyre:
   - Pump up the damaged inner tube.
   - Search for the point where the air is escaping.
   - When you have found the leak: turn the inner tube in on itself so that the valve is pointing inwards.
8. If the leak is on the inside:
   - Check that the rim tape is positioned correctly: All spoke holes must be covered. If this is not the case, please contact your specialist bicycle dealer.
   - Check the rim for damage (sharp edges, chippings etc). If you find such damage, please contact your specialist bicycle dealer.
   - Check whether there are one or two small holes next to each other.

     NOTE:
     Two small holes indicate a puncture (snakebite). This is a frequent cause when riding over sharp-edged obstacles with too little air pressure.
     If the rim is not damaged: install a new inner tube.

9. If the leak is on the outside:

   • Hold the inner tube next to the rim with a tyre, as it was mounted. Check the area of the tyre where the hole is located in the inner tube. Often there is a thorn, a small stone or glass splinter in the tyre.

   ⚠ **CAUTION Danger of cuts**
   If you feel the inside of the tyre with your thumb or finger, you might cut yourself on sharp-edged objects if these are still in the tyre.

   • **Avoid moving your thumb and fingers quickly along the inside walls of the tyre.**

   • **You should feel the walls of the tyre with extreme caution.**

10. Remove the item causing the problem carefully with your fingernail, penknife or similar item. If the tyre has been damaged or cut over a large area, it also has to be renewed.

If a tyre change is needed:

NOTE:
A new tyre is required if the tyre is visibly damaged and this damage goes beyond a small puncture.

11. Remove the old tyre completely from the rim.
12. Mount the new tyre with one side on the rim. Make sure that the arrow indicating the direction of movement on the tyre (if present) is pointing in the direction of rotation when the bike is ridden.

If no tyre change is needed:

13. Pump up the new inner tube somewhat, so that it takes on its final shape.
14. Insert the valve through the valve hole in the rim. The valve must be pointing towards the middle of the wheel.
15. Now press the side of the tyre which is still outside the rim into the tube protector at the level of the valve.
16. Press the external sides of the tyre into the tube protector at the same time around the circumference. Start at the valve.
17. Opposite the valve the force required to press the tyre in may be greater. Use the tyre irons for this. Make sure that you do not damage the inner tube.
18. Pump up the inner tube slightly.
19. Move the tyre to and fro around the circumference at right angles to the direction of travel. Ensure that the tyre is positioned evenly on the rim and that the inner tube is not visible at any point.
20. Inflate the tyre up to the prescribed air pressure. The permitted air pressure is indicated on the side wall of each tyre.
21. Mount the wheel in accordance with *section 13.1.2, Installing the front wheel and 13.1.4, Installing the rear wheel.*
22. Check the tyres. See *section 7.1.2.4, Checking the tyre.*

16. Storing the Bike for Prolonged Periods

NOTE:
Incorrect storage of your bike can damage the bearings and your tyres, as well as promoting corrosion. Store your bike in accordance with the following specifications if you are not going to use your bike for longer than 2 months
.

1. Clean and maintain your bike as described in *section 14.2, How to clean and care for your bike*.
2. Store your bike only in dry rooms where it is not exposed to excessive dust.
3. Use suitable bike stands (e.g. tripod). Consult your specialist bicycle dealer on this.
4. If your bike is standing with one or both wheels on the floor:
   - Lift your bike every 2-3 weeks and turn the wheels a few rotations by hand.
   - Move the handlebars back and forth a few times.
   - Turn the crank by hand a few revolutions in the opposite direction to the drive.
5. Before using your bike again, carry out a check as described in *section 7, Before Every Use.*

17. Disposing of the Bike

Your bike contains substances which are harmful to the environment and human health, as well as materials which can be reused and recycled.

Dispose of your bike at a local authority collection point. Detailed information on the correct disposal of your bike can be obtained from your local authority or your specialist bicycle dealer.

Dispose of tyres and inner tubes with the domestic waste.

18. Warranty, Guarantee

18.1 General

The warranty for GHOST bikes is fundamentally subject to the statutory provisions or any agreements reached with the respective dealer. Contact person for warranty claims is the dealer from whom the GHOST bike was purchased. If a fault or defect covered by the warranty occurs in a GHOST bike within the warranty period, please contact the respective dealer who will deal with all the next steps for you.

18.2 Stability guarantee on frames from model year 2011

In addition to the statutory warranty, GHOST-Bikes gives a stability guarantee of 3 or 5 years on the frame, depending on the frame type, if you as the ultimate customer complete the guarantee card accompanying the new bike and return it to the firm GHOST-Bikes. Alternatively you can also make an online registration. The guarantee period starts with the purchase of the new bike by you as ultimate customer from an authorised dealer. If the guarantee card is not returned to the firm GHOST-Bikes or the bike is not registered online, no guarantee will apply. This guarantee does not infringe your warranty entitlements.

The following guarantee periods apply:

1. A 3-year-warranty is possible for CAGUA, RIOT LT, NORTHSHORE, DOWNHILL, THE HOOD frames
2. The 5-year guarantee is possible for all frames not falling under the above categories.

The guarantee applies only to the frame construction and not to the paintwork and decoration.

The guarantee does not cover:

- Faults and damage attributable to a failure to observe the instructions and tips given in the user manuals.
- Faults and damage attributable to force majeure, accident, improper use, incorrectly performed repairs, lack of maintenance and care or to wear and tear.
- Faults and damage attributable to original spare parts not being used when replacing parts.
- Changes to the product without the prior agreement of the firm GHOST-Bikes, insofar as defects and damage are attributable to these.

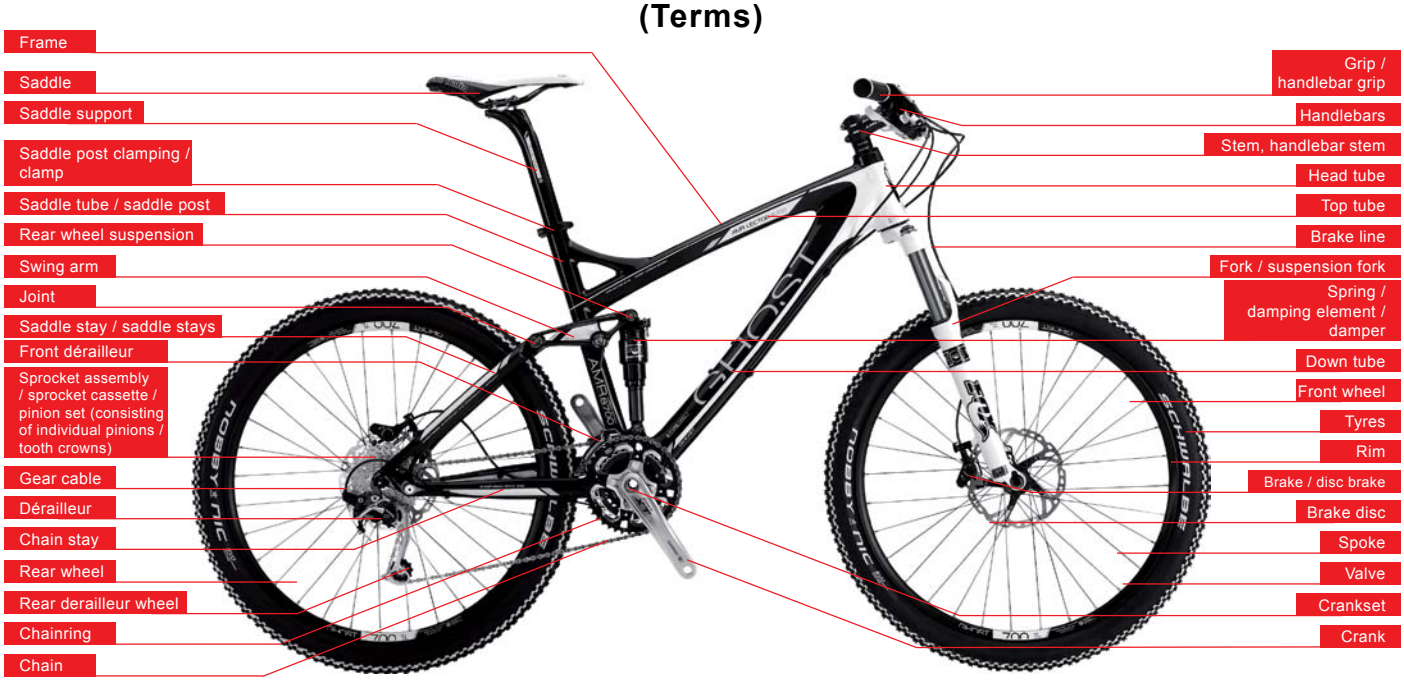
In the event of a complaint within the above guarantee period but outside the statutory warranty period, only the defective frame will be repaired or replaced. Costs for any necessary modification of components or the shipping of a frame within the stated period will not be assumed or refunded. The frames concerned therefore have to be dismantled and sent carriage paid to the firm GHOST-Bikes. In cases where the frame is replaced within the guarantee period, the guarantee period begins again for the new frame from the time of replacement.

Should a frame of the same type no longer be available if it becomes necessary to replace a frame, GHOST-Bikes reserves the right to supply an alternative frame which may differ in form and colour from the original frame, but which is of an equal or higher quality.

The warranty entitlements continue to apply alongside this guarantee.

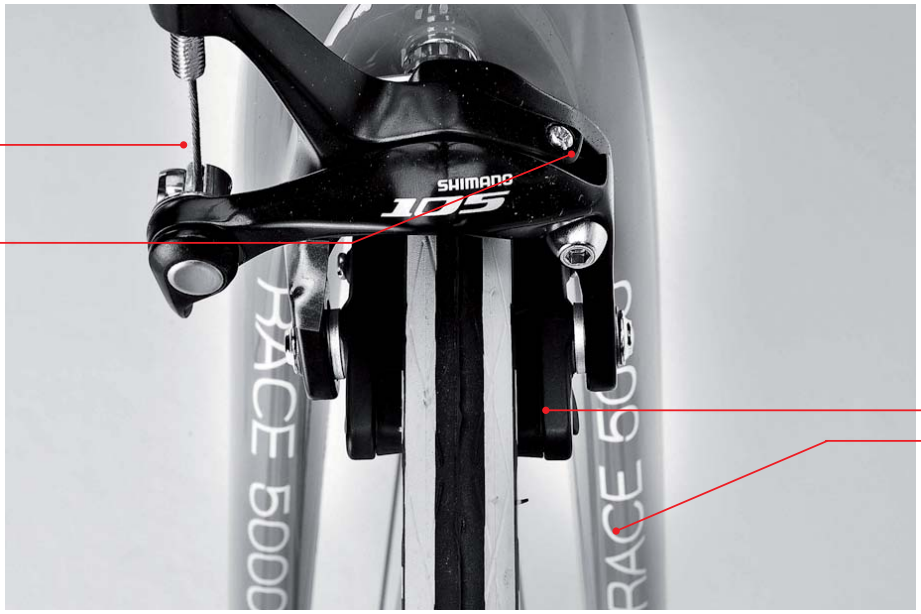
19. Overviews showing all of the Bicycle Components

FRAME DESCRIPTION (Terms)



FRAME DESCRIPTION (Terms)

DETAILED VIEW
(Rim brake of the racing bike)



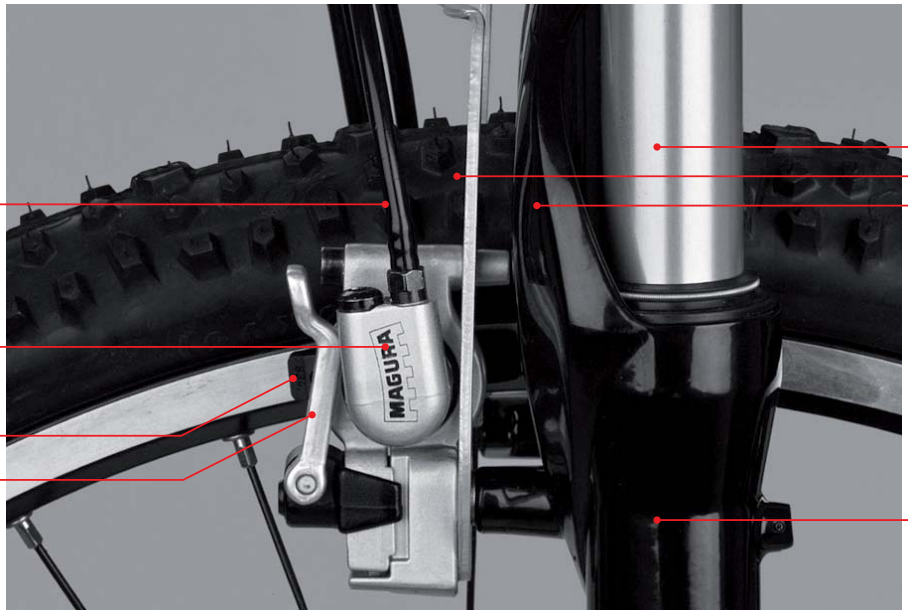
Brake cable or brake line (Magura)

Rim brake (racing bike) / Rim brake (Magura) / Rim brake (MTB)

Brake calibre / brake boss / brake shoe / brake lining / brake block / brake pad

Fork

DETAILED VIEW
(Magura rim brake)



Brake line

(Magura) rim brake

Break caliper / brake boss / Brake shoe / brake lining / brake pad / brake pad

Attachment lever (Magura)

Dip tube

Brake booster

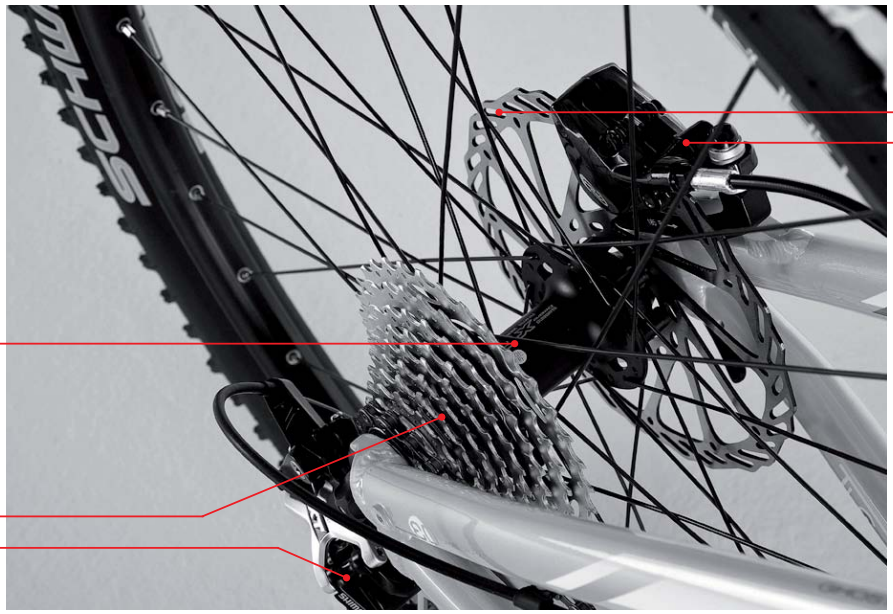
Fork crown

Fork tube

DETAILED VIEW
(wheel)

DETAILED VIEW
(Handlebars)

DETAILED VIEW
(Hub, rear)


Brake disc
Disc brake
Hub, rear
Sprocket assembly / sprocket cassette / pinion set (consisting of individual pinions / tooth crowns)
Dérailleur

DETAILED VIEW
(Hub, front)

DETAILED VIEW
(Head tube)

DETAILED VIEW
(Saddle)

20. Imprint

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